







## Analysis of student satisfaction with the quality of academic library services at state Christian religious higher education institutions

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### ABSTRACT

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#### Keywords

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This study aimed to obtain accurate information about the student satisfaction level with academic library services in State Christian Religious Higher Education institutions and to evaluate the performance of each attribute service. A quantitative approach involving descriptive statistical methods was used. For data collection, a questionnaire comprising 16 statements, validated by five experts, was employed and the data were gathered from 382 students across three participating State Christian Religious Higher Education institutions. The data analysis employed descriptive statistical methods and involved the use of the Customer Satisfaction Index (CSI) formula and the Importance Performance Analysis (IPA) method. The results showed that the percentage of overall student satisfaction level for academic library services was 66.24%, indicating students were largely content with these services. However, there was room for improvement in the performance of these services. This study identified certain service attributes such as internet accessibility, library collection, library catalog system, timeliness of library opening and closing, library staff readiness, and the speed of library staff in handling requests, which were found to provide low satisfaction levels to students. A comprehensive performance evaluation for each academic library service attribute resulted in a mapping visualized through the four quadrants of the Cartesian diagram. The management of the State Christian Religious Higher Education must develop various facilities for library operational support and also staff competencies to improve the academic library services.

**Contribution/Originality:** This study contributes in improving the service quality of academic library in the State Christian Religious Higher Education. It emphasizes the significance of facilities and staff competencies in fulfilling students' academic needs.

## 1. INTRODUCTION

Academic library is essential for higher education institutions in supporting teaching, studies, and information needs (Gabbay & Shoham, 2019; Mierzecka & Suminas, 2018). Many academic libraries have developed various resources to serve the needs of their institutions, including personnel training and the provision of digital-based equipment to access information effectively (Ayoung, Baada, & Baayel, 2021; Bamidele, Omeluzor, Imam, & Amadi, 2013; Hamad, Tbaishat, & Al-Fadel, 2017; Mwilongo, Luambano, & Lwehabura, 2020; Onyeneke & Ahaneku, 2021;

Xiao, 2020). Meanwhile, well-managed library services are necessary to ensure stakeholder satisfaction and enhance the reputation of institutions.

State Christian Religious Higher Education is similar to any other institution requiring academic library support to run its education system effectively. Ideally, the system should guarantee the needs of the learning process (Moore, 2018). Students need academic library as a place to obtain all information relevant to their studies. The library is a convenient place to read textbooks and find references for independent assignments. Studies also showed better comprehension was gained from reading printed textbooks than digital ones (Delgado, Vargas, Ackerman, & Salmerón, 2018). Therefore, the presence of printed textbooks in library needs to be well maintained to enhance long period usage. The academic library space also needs to be well organized to provide comfort for all users.

The enhancement of services holds significant importance, necessitating regular improvements, not solely concerning the supporting facilities, but the management of human resources involved. The study by Johnson (2013) found that academic library in a large number of least-developed countries was constrained by the availability of supporting infrastructure and management personnel. It cannot be denied that some developing countries also experience these problems. In the context of Indonesia, State Christian Religious Higher Education is striving to improve its academic library services contributing to the progress of the country's development. Mashroofa (2022) stated that library had a significant contribution to the achievement of goals in a sustainable manner. Therefore, State Christian Religious Higher Education institutions have a great responsibility to improve their services in meeting the needs of stakeholders and supporting the achievement of development goals.

The provision of trained management personnel is an important aspect of improving academic library services. The personnel should have superior competencies, namely hard and soft skills, needed to serve the stakeholders (Ghuloum & Buabbas, 2016; Oyovwe-Tinuoye, Omeluzor, & Patrick, 2021). Specifically, hard skills are related to technical knowledge, while soft skills are closely related to the ability to interact well with others (Balcar, 2016). These capabilities are necessary to navigate the 21st century, where high-quality services to stakeholders should be prioritized.

The quality of academic library services is an important issue for every higher education institution (Gathoni & Van der Walt, 2019; Hossain & Ahmed, 2013). However, several studies reported that the quality of services for some universities in Indonesia was still low and needs to be improved (Latif & Nursyam, 2017; Lende, 2021; Srirahayu, 2019). In this context, several approaches have been used and proven to be quite effective in evaluating the concept (Gathoni & Van der Walt, 2019; Hossain & Ahmed, 2013; Parasuraman, Zeithaml, & Berry, 1985; Yi & You, 2015). The evaluation results are needed as a reference to propose strategic policies to improve the quality of academic library services in the future.

Library services quality is often associated with customer satisfaction (Bae & Cha, 2015; Moslehpour, Chau, Zheng, Hanjani, & Hoang, 2020). Customers are placed as the main subject, feeling the direct impact of academic library services in higher education institutions. Moslehpour et al. (2020) suggested that higher education institutions have taken on this important role in meeting the educational needs of students, including offering meaningful experiences. Academic library is an important part of the service system that supports the study process and contributes to the acquisition of graduate competencies. Therefore, these services should focus on achieving student satisfaction, specifically in fulfilling the need for information relevant to the educational process.

Student satisfaction with academic library services is one of the important measures of higher education quality. In addition, services quality can be evaluated based on student satisfaction (Zineldin, Akdag, & Vasicheva, 2011). The designation of quality higher education derives from the perceptions of stakeholders, specifically those who have experienced the services designed to their interests and needs (Al-Amri, Mathew, Zubairi, & Jani, 2020; Padlee, Reimers, Mokhlis, Anuar, & Ahmad, 2020). Services quality can have the potential to attract student

sympathy from various places to join the institutions (Moslehpour et al., 2020). This is a competitive advantage as well as an opportunity to increase competitiveness at large.

Enhancing competitiveness through the delivery of services quality stands as a paramount aspiration for every higher education institution. Even though numerous studies delved into investigating academic library services to enhance the overall quality of higher education, there remains a gap concerning the evaluation of the concept. This study aims to fill that gap by assessing the quality of academic library service management in such institutions across Indonesia, with a focus on analyzing student satisfaction. Overall, this study is guided by the following questions:

- 1) What is the satisfaction level of students toward academic library services at institutions of the state Christian higher education?
- 2) How is the performance of academic library services at institutions of the state Christian higher education evaluated?

Academic libraries must continue to adapt and position themselves effectively in higher education institutions (Cox, 2018). It shows that the role of academic libraries for higher education institutions is important and strategic. Therefore, academic libraries need to evaluate their performance on an ongoing basis. This study is important to obtain accurate information about the current quality of academic library services. Evaluation carried out through this research is necessary for sustainable institutional improvement. The outcomes are expected to serve as a vital point of reference for policymakers, facilitating sustainable improvements to bolster the competitiveness of State Christian Religious Higher Education institutions. The outcomes are expected to serve as a vital point of reference for policymakers, facilitating sustainable improvements to bolster the competitiveness of State Christian Religious Higher Education institutions.

## 2. LITERATURE REVIEW

In the context of higher education, service quality is identified as a determinant of student satisfaction. Student satisfaction is an important indicator for the quality and reputation of a higher education institution. Specifically, student satisfaction is influenced by a number of factors, such as: teaching quality, physical facilities, and academic support (Gunn, 2018; Hwang & Choi, 2019). Generally, students interact with these factors to meet their educational needs. Therefore, it is important for higher education institutions to continually improve the performance of these factors.

Academic libraries are part of the physical facilities provided by higher education institutions to support the educational needs of students. Academic library services have an important role to play in fulfilling learning needs of students in higher education. Kurniasih (2018) classifies academic library services into three main parts: 1) circulation services, namely services related to borrowing, extending and returning library collections, 2) reference services, namely services provided by libraries for special collections such as dictionaries, encyclopedias, directories, and yearbooks containing technical information, 3) reading room services, namely services in the form of special areas for reading activities in the library. These types of services function to handle collection access and storage needs. Block (2020) highlights academic library services not only as a space for accessing and storing knowledge, but also as a space that functions to produce knowledge. In this context, the academic library is designed to function as a space for collaboration between students in learning and research. Soltani and Nikou (2020) state that academic libraries are more focused on matters of searching and retrieving information than on the need for information literacy in a research context. The need for a more strategic function requires an increase in the quality of academic library services in higher education institutions.

Nowadays, academic libraries in higher education must adapt to the rapid changes that occur in various sectors. Academic libraries must improve their services to maintain their relevance by capturing the existing opportunities and challenges. Missingham (2021) outlines several important activities that need to be handled by academic

libraries to support sustainable development goals, namely: 1) promoting digital, media and information literacy, 2) closing gaps in access to information and helping individuals to understand the need for better information, 3) facilitating the delivery of government programs and services, 4) communicating knowledge generated by universities, 5) served as the heart of research and academic communities, 6) building global partnerships and collaborations that provide greater access to digital collections, 7) preserving and providing access to world culture and heritage. Therefore, the 21<sup>st</sup> century academic library must understand its role and contribution to education, research, and sustainable development.

The quality of academic library services is a key factor affecting student satisfaction and progress of higher education institutions. States that academic library resources have a significant impact on student satisfaction as users. Academic library resources can be in the form of equipment resources or human resources as administrators. Egberongbe (2020) states that sustainable resource development with the support of effective management contributes on improving the quality of academic libraries and the reputation of higher education institutions. Collection development, technology integration, and staff training are appropriate efforts to improve the quality of academic library services (Lowe, 2019; Posner, 2019).

In improving the quality of academic library services, accurate data is needed as a reference for making appropriate improvements. Many methods can be used to evaluate the quality of a service. Mwiya et al. (2019) have proven that the five dimensions of service quality based on the SERVQUAL model (Parasuraman, Zeithaml, & Berry, 1988) have a significant effect on student satisfaction. The model has been widely used in studies on service quality. Dimensions such as reliability, responsiveness, assurance, empathy, and tangibles have been applied to measure service quality.

### 3. METHODOLOGY

This study used a quantitative approach involving descriptive statistical methods to analyze the level of student satisfaction with academic library services. In addition, the IPA method (Martilla & James, 1977) was also used to evaluate the performance of academic library services. This method effectively provided a clear analysis of the current status of academic library service attributes.

#### 3.1. Participants

The participants were 382 students from 3 State Christian Higher Education institutions who had completed the first year of their studies. Based on gender category, the participants consisted of 168 males and 214 females. The complete demographic information is shown in Table 1.

Table 1. Demographic information (N = 382).

Category	N	Percentage
Gender		
Male	168	43.98
Female	214	56.02
Age (Year)		
17 - 23	236	61.78
24 - 30	146	38.22

#### 3.2. Instrument and Procedures

This study used Likert-Scale Questionnaires with four response options as data collection tools. A total of 16 items were validated by five experts who had competence in the field of education management and public services. The items are a set of attributes that represent academic library services. In the process of proving the content validity, Aiken's formula (Aiken, 1985) was used to calculate the assessment scores of the experts. The analysis results showed that all the 16 items had good content validity, ranging from 0.87 to 0.93. Besides the validation of

the instrument, the reliability estimation of the instrument using Cronbach's alpha internal consistency also showed adequate values with a reliability coefficient of 0.876.

In this study, questionnaires were distributed to students after obtaining permission from the leaders of the universities involved. The number distributed was 500, but only 382 questionnaires were collected by the deadline.

### 3.3. Data Analysis

The level of student satisfaction with the attributes of academic library services was assessed based on their responses for each item in the questionnaire.

The converted scores were then analyzed with descriptive statistics to determine the level of student satisfaction with the attributes of academic library services. Table 2 shows the categorization of the student satisfaction level for each attribute of academic library services based on the range of mean score values.

**Table 2.** Categorization of student satisfaction levels based on the average score.

Range of scores	Level of satisfaction
$1.00 \leq \text{score} \leq 1.75$	Very dissatisfied
$1.75 < \text{score} \leq 2.50$	Somewhat dissatisfied
$2.50 < \text{score} \leq 3.25$	Somewhat satisfied
$3.25 < \text{score} \leq 4$	Very satisfied

In this study, the overall student satisfaction index for academic library services was analyzed using the Customer Satisfaction Index (CSI) formula, namely:

$$CSI = \frac{\sum_{i=1}^P WSi}{4} \times 100\%$$

Where,

$WSi$  = Weigh score.

$P$  = Number of important attributes.

4 = Number of response categories.

Besides analyzing student satisfaction, this study also evaluated the performance of academic library services using the IPA method. This analysis is important because the results have implications for better service development strategies.

Fundamentally, the IPA method uses Cartesian quadrants that place each item, namely the attributes of academic library services, into the appropriate quadrants based on the analysis results. The working procedure starts with selecting attributes that represent the services offered, then measuring the importance and performance of each attribute before mapping the average importance and performance measures on a Cartesian diagram (Janes & Wisnom, 2003).

## 4. RESULTS

### 4.1. Student Satisfaction with Academic Library Services

The results of descriptive statistical analysis were conducted to present the mean score and standard deviation for the level of importance and performance of each academic library service attribute. The results of the descriptive statistical analysis are presented in Table 3.

Based on Table 3, the average score for the importance level of the academic library service attributes is in the value range between 3.61-3.87, with a standard deviation between 0.37-0.54. The average score for the actual performance of the academic library service attributes is in the value range between 2.17-3.15, with a standard deviation between 0.63-0.81.

**Table 3.** Results of descriptive statistical Analysis on academic library service attributes.

Aspect/Attributes of academic library services (Item number)	Importance		Performance	
	M	SD	M	SD
Tangibles	3.81	0.41	2.45	0.75
1	3.79	0.41	2.82	0.74
2	3.79	0.42	2.17	0.81
3	3.77	0.44	2.50	0.73
4	3.87	0.37	2.29	0.71
Reliability	3.81	0.41	2.79	0.64
5	3.84	0.38	3.15	0.63
6	3.81	0.42	2.28	0.67
7	3.78	0.42	2.94	0.63
Assurance	3.68	0.48	2.78	0.68
8	3.70	0.48	2.96	0.63
9	3.64	0.50	2.62	0.70
10	3.70	0.47	2.77	0.70
Responsiveness	3.73	0.46	2.51	0.70
11	3.79	0.41	2.40	0.69
12	3.61	0.52	2.78	0.64
13	3.80	0.40	2.35	0.76
Empathy	3.68	0.50	2.80	0.68
14	3.65	0.54	2.65	0.75
15	3.73	0.47	2.90	0.64
16	3.66	0.50	2.85	0.64

The average score for the performance column in Table 3 is the student perception, describing their level of satisfaction with each attribute of academic library services. Referring to Table 2, the categories of student satisfaction levels can be presented in Table 4.

**Table 4.** Categories of student satisfaction levels for each attribute of academic library services.

Item number	Attributes of academic library services	Student satisfaction level
1	Comfort of reading spaces.	Somewhat satisfied
2	Adequate internet accessibility.	Somewhat dissatisfied
3	Completeness of library collection types.	Somewhat dissatisfied
4	Computerized library catalog system.	Somewhat dissatisfied
5	Ease of book borrowing process.	Somewhat satisfied
6	Timeliness of library opening and closing by staff.	Somewhat dissatisfied
7	Ease of book return process.	Somewhat satisfied
8	Friendliness of library staff in serving.	Somewhat satisfied
9	Ability of library staff to provide explanations to students.	Somewhat satisfied
10	Responsible behavior of library staff in serving student needs.	Somewhat satisfied
11	Preparedness of library staff when needed by students.	Somewhat dissatisfied
12	Willingness of library staff to provide solutions to students.	Somewhat satisfied
13	Speed of library staff in handling requests from students.	Somewhat dissatisfied
14	Concern of library staff towards student interests.	Somewhat satisfied
15	Willingness of library staff to listen to any student complaints.	Somewhat satisfied
16	Ability of library staff to understand student needs well.	Somewhat satisfied

Besides finding the level of student satisfaction, this study also found a percentage of the overall level, which amounted to 66.24%. This percentage value is obtained based on analysis using the CSI formula. The percentage value shows that students are somewhat satisfied with using academic library services but the performance has to be improved in the future.

#### 4.2. Performance Evaluation of Academic Library Services

Based on the IPA method, this study produces a mapping for the average importance and performance scores of all academic library service attributes. The average scores for the level of importance and performance are plotted into four quadrants, namely A, B, C, and D, of the two-dimensional matrix shown in Figure 1.

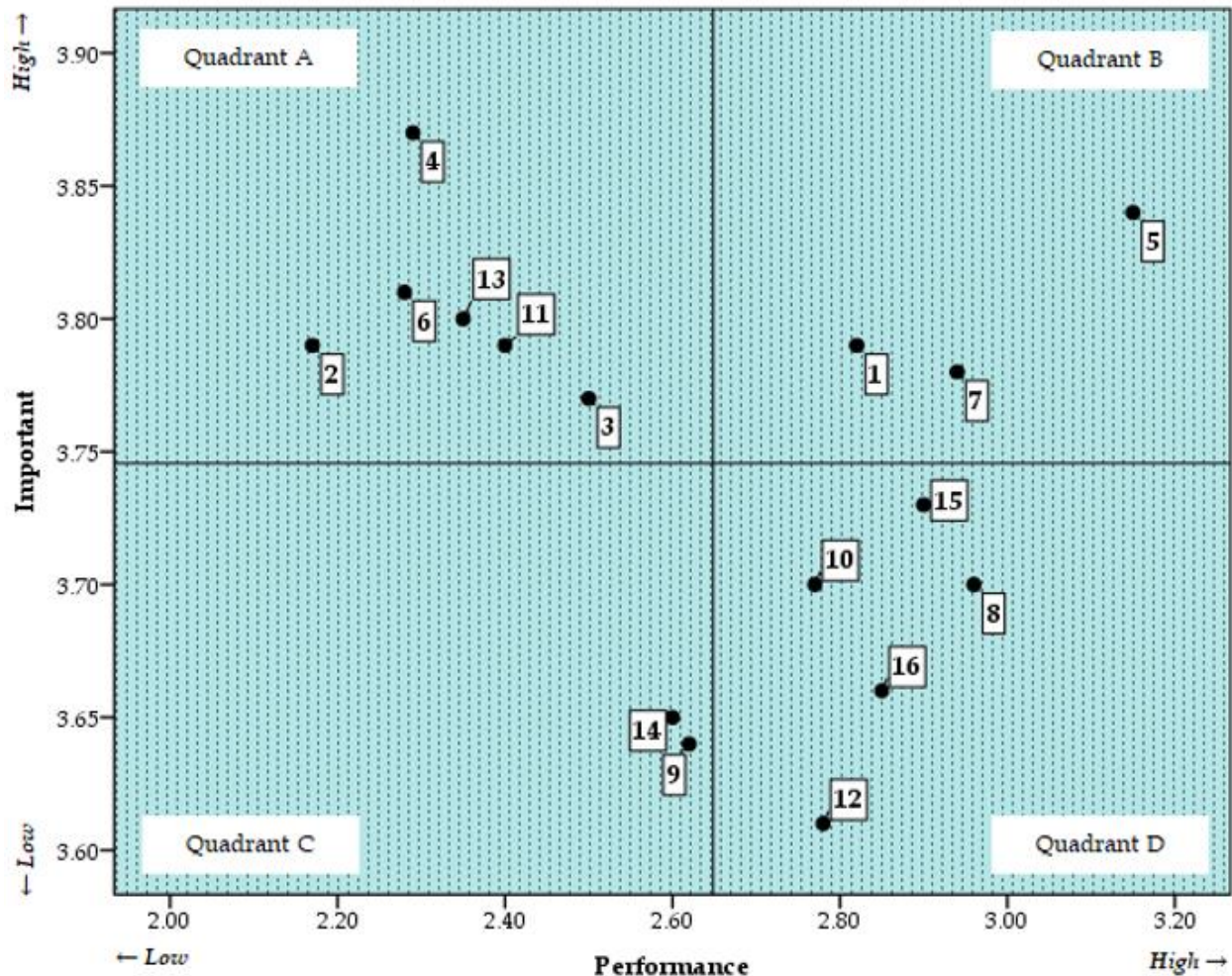


Figure 1. Cartesian quadrant for each attribute of academic library services.

Based on the mapping results in Figure 1, Quadrant A represents service attributes considered important by students, but their actual performance is low. These service attributes are represented by item numbers 2, 3, 4, 6, 11, and 13, as well as considered unsatisfactory. Therefore, the attributes in this quadrant should be prioritized to improve their performance by higher education management.

Quadrant B signifies service attributes that students consider essential and are performing well. These attributes meet the quality standards and necessitate ongoing maintenance. Specifically, items number 1, 5, and 7 represent the attributes falling within this quadrant. It is the responsibility of higher education management to persistently innovate and enhance the concepts to ensure sustained high levels of satisfaction.

Quadrant C represents service attributes considered less important by students with low performance. The attributes in this quadrant are represented by items number 9 and 14. Furthermore, the items have performance ratings below services quality standards, and students place them at a low level of importance. These attributes need to be reviewed and replaced with others that are more valuable to students.

Quadrant D represents service attributes that are considered excessive. The performance has met quality standards, but students place these attributes at a low level of importance. Therefore, higher education management needs to consider allocating resources relevant to these service attributes considered a priority for improvement.

## 5. DISCUSSION

This study was conducted to investigate student satisfaction with the academic library services at State Christian Higher Education Institutions. The performance of each attribute of the academic library services was evaluated. The results showed that the response to the overall academic library services was quite good. Therefore, students were satisfied with the use of the academic library services and the overall performance was improved.

Specifically, this study shows two important areas within the scope of academic library that influence student satisfaction levels, namely resource equipment and human resources. Some academic library facilities still provide low satisfaction. The facilities that do not meet the standards include internet accessibility, library collection completeness, and library catalog system. In reality, students have high expectations for the availability of these facilities, but the academic library management has not been able to meet the standard. Peng, Wei, Fan, Jin, and Liu (2022) found that the availability of academic library service facilities, including adequate internet access, is an important component for enhancing student satisfaction. Internet accessibility also drives a more dynamic learning environment in this digital era (Newell, Manaf, & Marzuki, 2019). Students can also access new learning resources and supplement their references' shortcomings through digital media support provided internet access is available.

The library collection is also an attribute of the service that provides low satisfaction. This indicates that the academic library collection is still incomplete, even though books, journals, theses, dissertations, magazines, newspapers, and learning modules are important reference sources to work on academic projects. Mwilongo et al. (2020) stated that the development of library collections was a crucial criterion in evaluating academic library services. Concerning this, one way to update the collection is to collaborate with students to uncover data on their usage (Salisbury, Dollinger, & Vanderlelie, 2020). Collaboration can assist academic library management in discovering information about new collection types relevant to student study needs.

Besides the library collection and internet accessibility, the catalog system is another component that students consider inadequate. The library catalog system essentially contains a list of various collections, allowing users to easily locate materials (Hunter & Bakewell, 1991) and can be online based (Cole, Han, Weathers, & Joyner, 2013; Maggio, Kuffer, & Lazzari, 2017; Ndumbaro, 2018). Users can search for required documents in various ways, which cannot be conducted with a manual catalog system. In this context, the State Christian Higher Education Institutions should seize the opportunities of the digital era to promote an online-based academic library. This can be realized through the Cyber Christian University Program initiated by the Directorate General of Christian Society Guidance in the Indonesia Ministry of Religious Affairs (Efendi, 2023). The program facilitates distance learning and served as an appropriate platform for developing an online-based academic library.

Another important area is the performance of human resources, which are a valuable asset in developing the institutions (Al-Twal, Rowlands, & Cook, 2019). An effective higher education institution should have clear planning and goals for the development of its human resources. In this context, training programs serve as crucial means to enhance competence and cultivate the character of library staff (Paynter et al., 2020). Furthermore, the staff needs to be trained with a disciplined and responsible work attitude. The results indicated that students had low satisfaction regarding the punctuality of the library's opening and closing times. Library staff are perceived to be lacking discipline concerning operational hours and this can decrease trust in their performance. Generally, students expect the academic library to have extended operational hours (Peng et al., 2022), while delays in opening time result in a reduced period. An extended library operational time is crucial for students working on their final study projects. They require a long time and concentration to search for relevant references for their study projects.



The development of academic library staff should also be directed toward enhancing cognitive skills. Wang, Xiao, and Zhou (2022) suggested that ideal human resource development combines cognitive and non-cognitive skills. Cognitive skills can include non-routine problem-solving, critical and systems thinking, creativity, and effective communication, all involving cognitive processing (Geisinger, 2016). They are important aspects underlying problem-solving strategies (Barry & Schimoler, 1975). This study showed that students provided unfavorable ratings regarding the responsiveness of library staff. The readiness and speed of library staff in addressing requests indicate low satisfaction levels. In this context, responsiveness represents the willingness to assist and provide prompt and accurate service through clear information delivery or necessary actions. Proficiency in problem-solving, critical and systems thinking, creativity, and effective communication is required to enhance the responsiveness of library staff. Academic library management and the State Christian Higher Education Institutions should focus on developing cognitive and non-cognitive skills through appropriate training programs.

## 6. CONCLUSION

The result of this study has shown that student satisfaction towards academic library services is at a good level with a percentage value of 66.24%. Based on the evaluation result on the performance of academic library services, it was found that internet accessibility, computerized catalog system, completeness of collection types, punctuality of library opening and closing times, staff readiness in providing services, and staff speed in handling student requests are a number of service attributes that must be improved by management.

In conclusion, the library services were a reflection of the quality of the higher education institution. Efforts to improve the quality of academic library services at the State Christian Higher Education Institutions ensured student satisfaction as the prioritized customer. Furthermore, two vital areas to be strengthened were the development of resource equipment and sustainable human resource development planning. This was achieved by continuously enhancing different operational support facilities in the library and involving staff in relevant training programs. The participation of all library staff in well-planned training programs improved cognitive and non-cognitive skills. The rapid changes occurring in various sectors due to the fast-paced technological advancements required the State Christian Higher Education Institutions to adapt and develop their potential. The institutions seized the opportunities in this era of technological revolution to enhance its academic library services. Therefore, technology became a crucial instrument to thrive in an increasingly competitive landscape. Establishing and fostering coordination and partnerships with all pertinent stakeholders significantly contributed to the sustained and successful growth of the higher education institutions. This study suggests that the management of state Christian higher education for religious studies can conduct comparative studies at higher education institutions that are more established and professional in academic library management.

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**Transparency:** The authors state that the manuscript is honest, truthful, and transparent, that no key aspects of the investigation have been omitted, and that any differences from the study as planned have been clarified. This study followed all writing ethics.

**Competing Interests:** The authors declare that they have no competing interests.

**Authors' Contributions:** All authors contributed equally to the conception and design of the study. All authors have read and agreed to the published version of the manuscript.

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**APPENDIX**

Appendix 1 presents academic library services questionnaire.

**Appendix 1. Academic library services questionnaire.**

**Section A:** Biographical Information

Age .....(in Years)

Gender .....(Male/Female)

**Section B:** Instruction

Please mark a checkmark (✓) in the Importance and Performance columns based on your selected score for each item of the academic library service. Score 1 in the Importance column represents "Not important", while in the Performance column, it represents "Very dissatisfied." Score 2 in the Importance column represents "Slightly/less important", while in the Performance column, it means "Less good or somewhat dissatisfied." Score 3 in the Importance column represents "Important", while in the Performance column, it represents "Good enough/somewhat satisfied." Finally, Score of 4 in the Importance column represents "Very important", while in the Performance column, it represents "Very good/very satisfied."

Importance				Academic library service items	Performance			
1	2	3	4		1	2	3	4
				1. Comfort of reading spaces.				
				2. Adequate internet accessibility.				
				3. Completeness of library collection types.				
				4. Computerized library catalog system.				
				5. Ease of book borrowing process.				
				6. Timeliness of library opening and closing by staff.				
				7. Ease of book return process.				
				8. Friendliness of library staff in serving.				
				9. Ability of library staff to provide explanations to students.				
				10. Responsible behavior of library staff in serving student needs.				
				11. Preparedness of library staff when needed by students.				
				12. Willingness of library staff to provide solutions to students.				
				13. Speed of library staff in handling requests from students.				
				14. Concern of library staff towards student interests.				
				15. Willingness of library staff to listen to any student complaints.				
				16. Ability of library staff to understand student needs well.				

Appendix 2 presents content validity of academic library services questionnaire.

**Appendix 2. Content validity of academic library services questionnaire.**

Aspects	Items	Validity index
Tangibles	1. Comfort of reading spaces.	0.87
	2. Adequate internet accessibility.	0.93
	3. Completeness of library collection types.	0.93
	4. Computerized library catalog system.	0.87
Reliability	5. Ease of book borrowing process.	0.93
	6. Timeliness of library opening and closing by staff.	0.87
	7. Ease of book return process.	0.87
Assurance	8. Friendliness of library staff in serving.	0.87
	9. Ability of library staff to provide explanations to students.	0.93
	10. Responsible behavior of library staff in serving student needs.	0.87
Responsiveness	11. Preparedness of library staff when needed by students.	0.87
	12. Willingness of library staff to provide solutions to students.	0.87
	13. Speed of library staff in handling requests from students.	0.87
Empathy	14. Concern of library staff towards student interests.	0.93
	15. Willingness of library staff to listen to any student complaints.	0.87
	16. Ability of library staff to understand student needs well.	0.87

Appendix 3 presents reliability of the academic library service questionnaire.

Appendix 3. Reliability of the academic library service questionnaire.

Case processing summary			
		N	%
Cases	Valid	382	100.0
	Excluded <sup>a</sup>	0	0.0
	Total	382	100.0

Note: a. Listwise deletion based on all variables in the procedure.

Appendix 3a presents coefficient value of instrument reliability.

Appendix 3a. Coefficient value of instrument reliability.

Reliability statistics	
Cronbach's alpha	N of items
0.876	16

Appendix 3b presents item-total statistics.

Appendix 3b. Item-total statistics.

Item-total statistics				
Items number	Scale means if item deleted	Scale variance if item deleted	Corrected item-total correlation	Cronbach's alpha if item deleted
I1	39.6021	37.978	0.475	0.871
I2	39.4607	38.218	0.539	0.868
I3	39.6466	38.098	0.491	0.870
I4	39.6440	37.936	0.573	0.866
I5	39.8037	37.628	0.550	0.867
I6	40.2539	37.460	0.476	0.871
I7	39.9188	37.744	0.507	0.869
I8	40.1309	37.468	0.561	0.867
I9	40.1440	38.218	0.507	0.869
I10	40.0209	37.842	0.535	0.868
I11	40.0707	37.347	0.533	0.868
I12	39.5209	38.387	0.513	0.869
I13	39.7749	37.624	0.506	0.869
I14	39.5759	37.830	0.579	0.866
I15	39.2696	39.043	0.435	0.872
I16	39.4843	38.497	0.505	0.869

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