Library Service Quality and Student Trust: A Case Study of the University of Sumatera Utara Library, Indonesia

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ABSTRACT

This study, conducted at the University of Sumatera Utara (USU) Library, aims to know the effect of service quality on customer trust and to determine student trust in library services based on levels of education. The research applied survey methods with quantitative approaches. Samples are determined using the Taro Yamane formula. The questionnaire covers 22 items of three LibQUAL dimensions. Data analysis techniques were performed using Structural Equation Modeling statistical analysis and path analysis by using the Lisrel version 8.5 application program. The results showed that service quality has a positive and significant effect on student trust. The level of trust in the library varies based on the levels of education. The dimensions of service quality with a positive and significant effect on student trust are the information control and the library as a place.

Keywords: Student trust in a library; Library user satisfaction; Library services quality

1. INTRODUCTION

The library is the heart of the university. This statement is once very popular among academicians in universities. It is the view of Charles Eliot, the president/chancellor of Harvard University in 1873 on the role of libraries when he led the college[1–3]. Until now, the statement "the university library is the heart of a university" is still often mentioned in various activities related to libraries and books because without a library a university cannot function properly[4]. Hence, the university library exists to support the goals of its parent institution.

In Indonesia, such a statement is a metaphor to appreciate how important the role of libraries in supporting the three pillars of higher education. This view is still often appreciated by many library managers and observers of higher education. The university library plays an important role in achieving the goals of the university as its parent institution[5]. Moreover, the library also plays an important role in promoting the progress of knowledge among students[6].

The main objective of the university library is to fulfill the information needs of students and lecturers to support teaching, research, and community service activities. In connection with this goal, the quality of the service is very important. Quality in the context of library services is defined as timeliness and error-free service.

The basic philosophy of the University library is to meet the various information needs of users in academic and research activities[7]. Service quality is a measure of how well the level of service provided by a library matches customer expectations. The consistent quality services delivered by the library should confirm the customer expectations. It may also be stated that service quality is an assessment of a service offered by knowing whether the service meets the expectations of the users. The service quality of the library is measured by assessing whether the information and services provided really meet the needs and expectations of users[8]. Assessment of the service quality of the library and user satisfaction is important because the success of each library depends on how well the services provided meet user expectations. The quality of service and user satisfaction is the ultimate goal of the library.

Regarding service quality, Dahiyat, et al[9] stated that "the tangible and intangible attributes of a service have been found to play a crucial role in shaping a customer's perceptions as to the quality level of that service. Such perceived service quality, in turn, drives the customer's evaluation and judgment of the extent to which s/he can confide in the provider of such a service". Garbarino and Johnson[10] mentioned that customer confidence in service quality can increase or decrease trust in service providers. They defined trust as a customer's belief in the quality and reliability of the services offered by the organisation. The same idea was proposed by Yieh, et al[11]. They mentioned that "the better the perceived quality of service, the more likely the customer is to gain confidence in that organisation, and the more trusting s/he becomes of the service provider". It is assumed that the services quality will foster the trust of students to use these services more frequently.

Customer trust is very rare or even has never been applied as a variable in research on user perceptions of library services, including researches at USU library. Therefore, this study aims to obtain reliable data to be used for the development of higher education libraries in the future by considering student's trust in the dimensions or aspects of higher education library services.

Based on the background described above, two research questions were formulated, namely:
• What is the effect of service quality on customer trust at USU Library?
• Based on their levels of education of students at the USU Library, what is the student's trust in library services quality?

2. LITERATURE REVIEW

2.1 Quality of Library Services

Traditionally, service quality is conceptualised as the difference between customer expectations about the service to be received and perceptions about the service that has been received[12-13]. Service quality is a central element in business strategy including in library management. Sriram and Rajev[14] stated that the library users' satisfaction plays a vital role in the development and provisions of the library. In addition, the quality of library services is measured by assessing whether the information and services provided by the library meet the needs and expectations of users[8].

The concept of service quality has long been the object of study in the field of library and information science. Research on the quality of library services, including at the college library, is generally associated with the satisfaction of library users. User satisfaction in the university library is very important and is the main objective of libraries and librarians[15]. Some researchers such as Cullen[16], Andaleeb, and Simmonds[17] stated that the customer satisfaction approach was one method of evaluating the effectiveness of the library services. The evaluation of the quality of library services has been carried out around since 1995. Various tools are used to assess the quality of library services, for example, the LibQUAL model[18]. LibQUAL is an approach commonly used to assess the quality of library services which examines the quality of library services in three dimensions: the Affect of Services, the information control, and the library as a place[19].

2.2 Customer Trust

Generally, researchers stated that trust was very important to build and maintain long-term relationships between product/service providers and customers[20-21]. Trust is seen as a valuable asset in the relationship between service providers and customers so the loss of trust will defect other services.

Libraries are service provider institutions and therefore, it is very important to build and enhance the trust of their customers to continue carrying out their duties and functions. Cox[22], et al. found that "libraries function to enhance social interaction and trust ...". Library services must be managed in such a way to generate user trust, in addition to the satisfaction they obtain[23].

The users of the university library are mainly students. Usually, the library is trying to provide various information resources to meet the information needs of students for their study so they will optimally utilise these information resources. However, the students now would prefer using Google rather than utilizing information resources available in libraries in fulfilling their information needs. Kiran and Diljit[24] stated, "academicians have expressed concern over the dependencies

of students on Google rather than trusted resources from the library's collection". This statement indicates that students' trust in library collections and services tends to decrease and they trust Google more. Therefore, students' trust in information resources from library services is an interesting variable to be studied.

2.3 Relationship between Service Quality and Customer Trust

The quality of service perceived by students as customers, in turn, will encourage evaluation and assessment of the library services quality. Students will inform various parties about the service quality, including the manager of the university library. Consequently, the quality of the service experienced can improve or reduce the customer trust in service provider organisations[25-26].

Yieh, Chiao, and Chiu[27] suggested that the better the quality of service perceived, the more likely the customer to gain trust in the service provider organisation, and he would increase trust and possibly become a service provider. Biranvand, Ghaffari, and Haghirosadat[28] research on public library users show the effect of delighting services on user's trust. The research of Dahiyat, et al.[9] shows that there is a significant effect of service quality on customer trust.

The statement above shows an inherent relationship between customer satisfaction and customer trust because the more customers are satisfied with the services they experience, the more likely they are to trust both the organisation itself and the personnel who provide the services. Therefore, this research hypothesis is proposed as follows:

Hypothesis: Service quality has a positive effect on the customer trust in the USU Library

3. METHODOLOGY

The study was conducted at the USU Library applying a quantitative approach. It is a survey method with a sample. The sample size was determined using the Taro Yamane formula for a total of 432 students as shown in Table 1.

Table 1. Number of samples based on level of education

Level of education	Sample	Per cent
Diploma degree (d3)	66	15.3
Bachelor degree (s1)	318	73.6
Master degree (s2)	30	6.9
Doctoral degree (s3)	13	3.0
Professional/specialist programs	5	1.2
Total	432	100

3.1 Data Collection

The structured questionnaire was used for collecting primary data from respondents. The questionnaire consists of 22 LibQUAL items which were grouped into three dimensions namely the Affect of Services, the information control, and the library as a place[29]. Furthermore, 22 LibQUAL items were modified into a questionnaire for each variable. The
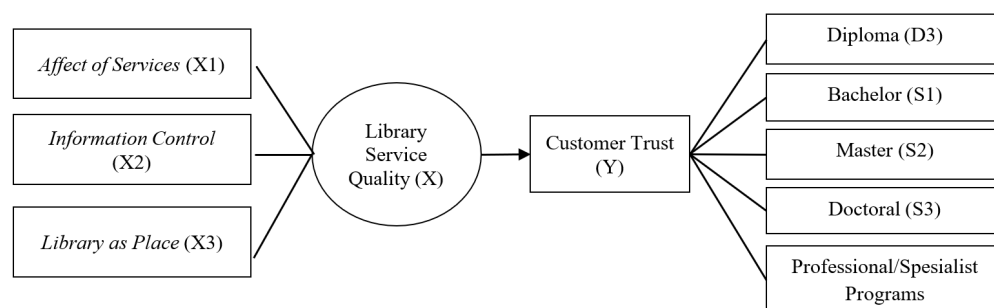
Figure 1. Conceptual framework and research design.

questionnaire was designed in the form of semantic differential measurements with the choice in one initial continuum line from the lowest number 1 (one) to the highest number 9 (nine). The number one represents the lowest level of service quality, while number nine represents the highest level of service quality.

The instrument used to measure student trust in the quality of library services is in the form of a semantic differential measurement with choices in an initial continuum line from the lowest number 1 (one) to the highest number 9 (nine). As with the measurement of service quality, the number one represents the lowest level of trust, while the number nine represents the highest level of trust.

Validity and reliability were tested on all items of the questionnaire. The results of the reliability and validity test based on the order of variables showed that all items of the questionnaire were valid and reliable.

3.2 Variables and Conceptual Framework

The research variables consist of service quality, customer trust, and education level as antecedent variables. The service quality variable acts as an independent variable to the customer trust variable as the dependent variable. The education level, consisting of Diploma (D3), Bachelor (S1), Master (S2), Doctoral (S3), and Professional/Specialist Programs, is a control variable. The conceptual framework of the research designs is provided in Fig. 1.

3.3 Data Analysis

Data analysis techniques were performed using Structural Equation Modeling (SEM) statistical analysis and path analysis using the Lisrel version 8.5 application program.

4. RESEARCH FINDINGS AND DISCUSSION
4.1 Quality of Library Service

The results of the library service quality test using statistical computer application programs are shown in Table 2.

Table 2. Test of library-service quality

Variable	Expectation/ reality	Average	Standard deviation	P-value
Library service quality	Expectation	8.33	0.58	0.000
	Reality	8.42	0.36	

The data in Table 2 shows the average value of the library service quality obtained by students (reality) is at 8.42 which is higher than the average quality value desired by students (expectations) at 8.33. Based on the results of paired samples test statistics, the value of p is 0.000 < 0.05. It can be considered that the quality of the USU Library service based on the overall dimensions of LibQUAL is statistically significant.

4.2 Library-Service Quality Based on LibQual Dimension

The results of the paired t-test show the highest quality service of the three LibQUAL dimensions of USU Library service. The value of the three dimensions can be seen in Table 3.

Table 3. The paired t-test on library service quality

Library service quality based on LibQual dimensions	Average	P-Value
A. Affect of services		
Expectation	8.25772	0.406
Reality	8.28215	
B. Information control		
Expectation	8.30035	0.000
Reality	8.58478	
C. Library as place		
Expectation	8.43519	0.070
Reality	8.38241	

The statistical test results in Table 3 above show that for the average value of the Affect of Services dimension, the quality obtained by students (reality) is at 8.28215 which is higher than the expected quality at 8.25772. However, since the p-value is 0.406 (higher than 0.05), it is considered that the Affect of Services dimension is not statistically significant.

Concerning the Information Control dimension, the test results indicate that the quality of services obtained is higher than the expected quality. Table 3 shows that the average value of USU Library service quality in the Information Control dimension obtained by students is at 8.58478 and is greater than the average value of expected service quality at 8.30035. The p-value is 0.000 < 0.05 which means the quality of library service in the Information Control dimension is statistically significant.

For the Library as a Place dimension, the results show that the quality of service expected by students is higher than the quality obtained. This can be seen from the test results which state that the average value of expected service quality

by students in the Library as a Place dimension is at 8.43519 which is higher than the average value of service quality obtained at 8.38241. Since the p-value is 0.070 (higher than 0.05), it is considered that the difference between the reality of service quality and expectations regarding the quality of library services as Library as a Place is not statistically significant.

Based on the test results above, it can be considered that the best quality of library services is in the dimension of Information Control. This dimension covers the quality of printed and electronic information resources owned or provided by the library and can be assessed and used by students as library customers, as well as equipment that provides easy access to the information resources. The quality of the library in the dimensions of the Affect of Services and the Library as a Place is of good quality although not statistically significant.

## 4.3 Effect of the Library Service Quality on Customer Trust

The research hypothesis states that service quality has a positive effect on customer trust. To determine this effect, the hypothesis testing criteria are as the following. If the path coefficient value of library service quality on customer (student) trust in library services is positive, then the effect is positive. Conversely, if the path coefficient value of library service quality to customer (student) trust in library services is negative, then the effect is negative. While the test criteria for significant influence are as the following. If the t-value (t-statistic or t-count) is greater than the t-table (critical value t) or t-value > t-table, then the effect is significant. On the contrary, if the t-table (critical value t) is greater than the t-value (t-statistic or t-count) or t-value < t-table, then the effect is not significant. Following the applicable provisions, the value of the t-table (critical value of t) is 1.96. Statistical test results on the above hypothesis are presented in Table 4.

Table 4. Test of effect of the library service quality on customer trust

Variable relationship	Path coefficient	T-value
The effect of the library service quality on customer trust	0.12	2.45

Based on the results of the path analysis in Table 4, the value of the path coefficient of library service quality to the customer (students) trust is at 0.12 which is positive. Following the above hypothesis test criteria, the library service quality has a positive effect on the customer (student) trust. Furthermore, the t-value of 2.45 is greater than 1.96. This also indicates that the library service quality has a significant effect on customer trust. Thus, it can be concluded that USU library service quality has a positive and significant effect on the customer (students) trust. The results of this test indicate that USU students still trust the library in fulfilling their resources of information and knowledge needs to support their study and the level of student trust in library services is positive and significant.

The test results using the LISREL application program showed that the path coefficient value on the standardised solution can be used to determine which factors of library service
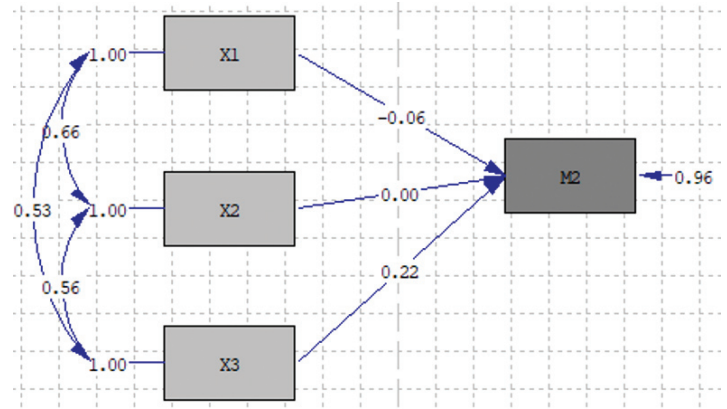
Figure 2. Path coefficient (standardized solution) of LibQUAL dimensions to customer trust.

quality mostly influence student trust as library customers or which LibQUAL dimension has the most influence on the customer-trust variable. The detailed test result of the influence of each dimension on customer trust is shown in Fig. 2.

Figure 2 shows that the path coefficient value of the Affect of Services (X1) quality dimension on customer trust is at -0.06. This indicates that the quality of the Affect of Services (X1) dimension negatively influences the trust of students as library customers. This means that the service provided by the library staff to students has not contributed to the student's trust.

Figure 2 also shows that the path coefficient value of the Information Control (X2) quality dimension on customer trust is at 0.00. This indicates that the quality of the Information Control dimension (X2) is likely to have a positive effect on customer trust. It can be stated that the quality of the Information Control dimension including the availability of collections, both printed and electronic information resources, access, and equipment has fostered student trust in USU library service.

Furthermore, the value of the path coefficient influence of the Library as a Place (X3) dimension on customer trust is at 0.22. This indicates that the quality of the Library as a Place (X3) dimension positively influences customer trust. It can be stated that this dimension has fostered student trust in USU Library services. The Library as a Place dimension includes the availability of rooms or places that are interesting, quiet, comfortable, and so on for studying and researching.

The findings showed that two dimensions of service quality have a positive effect on the students' trust, namely the quality dimensions of the Information Control and the Library as a Place. The dimension of service quality that mostly influences the student trust is the dimension of the Library as a Place.

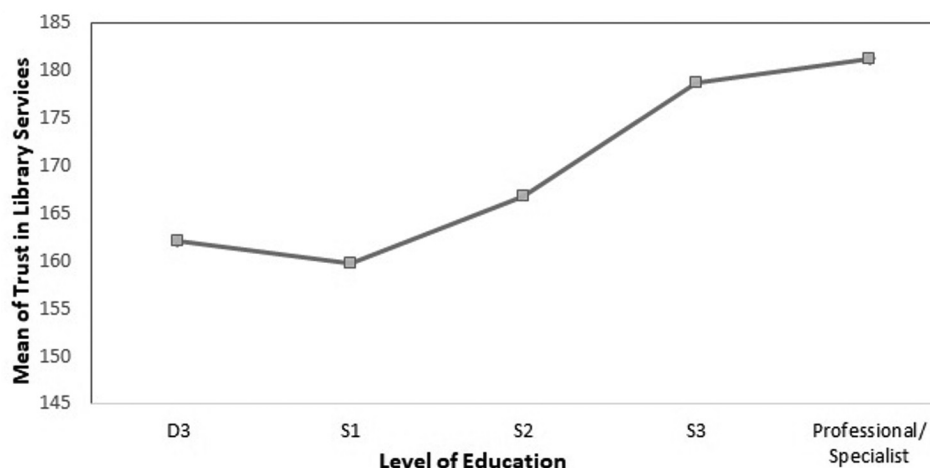## 4.4 Student Trust in Library Service Based on the Level of Education

Student trust in library service based on the level of education is presented in the following Table 5.

The data in Table 5 shows that the highest trust in library services is in postgraduate students, namely the Professional/Specialist Programs with an average score of 181.20. The S3 (doctoral degree) and S2 (master degree) programs have an average value of 178.77 and 166.77 respectively. The lowest trust is at the S1 (bachelor) level with an average value of

Table 5.   Student trust in library service based on the level of education

Variable	Level of education	Average
Student trust in library service quality	D3	162.17
	S1	159.81
	S2	166.77
	S3	178.77
	Professional/specialist program	181.20

Figure 3. Student trust in library services based on the level of education.

159.81 and Diploma (D3) at 162.17. Figure 3 shows student trust in library services based on the level of education.

The high trust of postgraduate program students (Professional/Specialist Program, Doctoral (S3), and Masters (S2)) in USU Library services is thought to be influenced by the provision of special rooms with complete and comfortable equipment specifically provided for postgraduate programs. In addition, it is also influenced by the availability of a very complete and relevant e-journal and e-books database provided by USU Library which can be accessed from the campus network. The entire database contains thousands of journal titles and books that can meet the needs of post-graduate students in their studies. E-journals and e-books are library collections widely used by post-graduate students. This collection is widely used because it can be accessed remotely, so that remote access is one of the library services, which is most often used. This finding is in accordance with the research findings of Dodamani and Brahma[30] which stated that 56 per cent of respondents regularly use remote access to e-resources facility initiated by the library.

The data and graphics in Fig. 3 show that the level of trust of Bachelor (S1) and Diploma (D3) students is lower than postgraduate students. The low trust of undergraduate students in library services is reasonable because they are more likely to use Google and other search engines to meet their information needs. Generally, undergraduate students represent a new generation of users called digital natives[31] and as digital natives, undergraduate students have access to computers from an early age, and are therefore very comfortable using information from online sources[32-33]. In addition, undergraduate students currently prefer online resources to traditional printed materials[34]. Within various online information resources, undergraduate students tend to use web resources that are easily accessed through search engines rather than library resources[35].

5.   CONCLUSION

The quantitative analysis shows that the service quality of USU Library in the three dimensions of LibQUAL is generally very good. The best dimension of library service quality is the Information Control dimension. The library service quality in the Affect of Services and the Library as a Place dimensions is good but is not statistically significant.

Hypothesis testing results indicate that the library service quality has a positive and significant effect on student trust. The results of this test indicate that overall USU students still trust the library for fulfilling their information and knowledge resource needs. However, the level of student trust in the library service varies based on their levels of education. The highest trust is in the postgraduate students; while the lowest is in the undergraduate students.

There are two dimensions of service quality with a positive and significant effect on the students' trust, namely the quality dimensions of the Information Control and the Library as a Place; while the Affect of Services dimension does not have a positive effect on the student trust. The dimension of service quality with the highest influence on the student trust is the Library as a Place dimension. The high level of student trust in this dimension is interesting for further study. The findings showed that the undergraduate students take the advantage of the physical facilities of the room and the environment around the library rather than using the resources provided.

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