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Determinants of User Satisfaction with Service Quality as Mediator at the Central Unit of Library Services and Manuscripts Collections of the National Library of the Republic of Indonesia

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Abstract: According to Law no. 43 of 2007 Libraries are institutions that manage collections of written works, printed works and/or artistic works professionally with a good system to meet the educational, research, preservation, information and recreational needs of users. The National Library of the Republic of Indonesia is the national institution that implements this law. The aim of this research is to analyze user satisfaction at the National Library of the Republic of Indonesia at the Central Unit of Library Services and Manuscript Collections and analyze service quality as a mediator variable. The variables used as factors influencing user satisfaction in this research are facilities and information technology. The research was conducted by surveying 100 visiting users using convenience sampling techniques. Data analysis was carried out using path analysis. The results of the research are that there is an influence of facilities and information technology on service quality and service quality has an influence on user satisfaction. Service quality is a mediating variable, meaning that user satisfaction is influenced by facilities both directly and indirectly through service quality and user satisfaction is influenced by information technology both directly and indirectly through service quality.

Keyword: Facilities, Information Technology, Service Quality, User Satisfaction, Path Analysis

INTRODUCTION

Libraries are institutions in the service sector that have an important role in storing, caring for, preserving and providing services and presenting information. According to Law no. 43 of 2007 Libraries are institutions that manage collections of written works, printed works and/or artistic works professionally with a good system to meet the educational, research, preservation, information and recreational needs of users. As a national scale library institution, the National Library of the Republic of Indonesia must strive to improve facilities with the support of the latest library information technology so that it can improve the quality

of service. Data on the number of uses of technology-based services during 2021-2022 are as follows:

Table 1. Number of Service Users

No	Service Name	2021	2022	Change (%)
1	Indonesia One Search	8,543,263	12,666,532	48.26
2	iPusnas	525,072	451,252	-14.06
3	e-Resources	444,023	438,552	-1.23
4	OPAC Perpustakaan	4,316,780	7,702,614	78.43
5	www.perpusnas.go.id	1,800,523	1,676,256	-6.90
6	Khasanah Pustaka Nusantara (Khastara)	104,905	153,115	45.96
7	Agenda	17,987	21,571	19.93
8	Livechat	17,827	12,839	-27.98
9	Email	3,294	1,951	-40.77
10	Visitors			
	Online	15,734,566	23,088,321	46.74
	Onsite	205,873	769,482	273.77
	Online + Onsite	15,806,514	23,857,803	50.94

Source: Inlisite Perpustakaan 2021-2022

One of the efforts to improve the quality of services carried out by the National Library is to improve library facilities, which is one of the strategies carried out by the National Library of the Republic of Indonesia at the Central Unit for Library Information Services and Manuscript Collection. In improving the quality of services is a facility improvement strategy (Asyro et al., 2020). Research conducted by (Sinaga et al., 2020) states that the use of information technology makes it easier to carry out repeated data processes which makes work simplified and accelerated, so that maximum results are obtained in managerial processes which can improve organizational performance. As in the table above, the use of information technology through online services has a fairly large contribution, namely 23,088,321 or 46.74% of users who use online/information technology-based services. The development of information technology through online services is one of the facilities most widely used by users.

Based on this, the formulation of the problem in this research is:

1. Do facilities affect service quality?
2. Does Information Technology influence Service Quality?
3. Does service quality influence user satisfaction?
4. Do facilities influence user satisfaction as a mediator of service quality?
5. Does Information Technology influence User Satisfaction as a mediator of Service Quality?

In the journal (Erica et al., 2022) according to experts, facilities are important infrastructure in an effort to increase satisfaction such as providing convenience, meeting needs and comfort for service users. If the facilities provided are in accordance with their needs, customers will feel satisfied (Oetama & Sari, 2017). According to Andari (2017), facilities are a form of treasury that functions to add value to a product or service offered. Meanwhile, for Kotler, (Kotler, 2018) explains that facilities are everything that is physical equipment provided by service sellers to support consumer comfort..

Information technology is a technology used to process data, including processing, obtaining, compiling, storing, manipulating data in various ways to produce quality information, namely information that is relevant, accurate and timely, which is used for personal, business and government purposes. to obtain strategic information in decision making. The use of information technology makes it easier to carry out repetitive data

processes which makes work simplified and accelerated, so that maximum results are obtained in managerial processes which can improve organizational performance to become more efficient and effective (Sinaga et al., 2020). According to Muharti (2004), the application of IT in libraries can be used in various forms, including:

- a) As a library management information system. Activities or work that can be integrated with library information systems include procurement, inventory, cataloguing, collection circulation, and processing member data and statistics. This function is often termed a form of library automation.
- b) As a means of storing, obtaining and disseminating scientific information in digital format. This form of implementing IT in libraries is often known as digital libraries. These two IT implementation functions can be carried out separately or integrated in the library information system. This condition depends on the capabilities of the software used, human resources and the information technology equipment infrastructure used.
- c) The advantages of using IT in libraries are: Making it easier to process library materials, making library management efficient and effective, making it easier to build information network systems with other libraries.

Goesth and Davis (2019) define service quality as a dynamic condition related to service products, people, processes, environments that are able to meet and/or exceed consumer expectations. Furthermore, according to (Ullah & Yasmin, n.d.) service quality is the overall characteristics and characteristics of a good or service that influence its ability to satisfy stated or implied needs. Quality of service provided by the company to be able to meet customer expectations. The quality of public services can be measured by the level of satisfaction of people who need services. User satisfaction is obtained from an assessment of the services provided by the librarian and is felt directly by the user, then the user will provide an assessment of the service provided by the librarian, if it is less than expectations then they are not satisfied, and vice versa.

Kotler and Keller (2016) state customer satisfaction as follows: "Satisfaction reflects a person's judgment of a product's perceived performance in relationship to expectations. If performance falls short of expectations, the customer is disappointed. If it matches expectations, the customer is satisfied. If it exceeds them, the customer is delighted." According to Park in (Irawan 2021:54), expressing customer satisfaction is a customer's feeling as a response to the product or service that has been consumed. Meanwhile, according to (Tjiptono 2017) consumer satisfaction is a post-purchase evaluation, where the perception of the performance of the selected alternative product/service meets or exceeds expectations before purchase. According to Daryanto and Setyobudi (2019), consumer satisfaction is an emotional assessment of consumers after consumers use a product where the expectations and needs of consumers who use it are met. According to Daryanto, (2019) stated that consumer satisfaction is an emotional assessment of consumers after consumers use a product where the expectations and needs of consumers who use it are met.

The research model that describes the relationship between variables in this research is as follows:

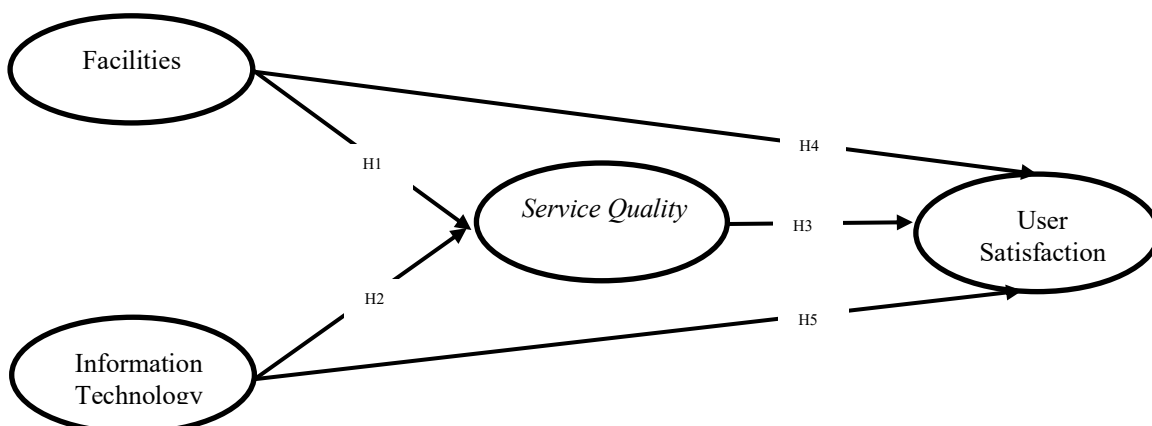


Figure 1. Conceptual Framework

The hypothesis put forward in this research is

- H₁: Facilities influences service quality
- H₂: Information technology influences service quality
- H₃: Service quality influences user satisfaction
- H₄: Facilities influences user satisfaction
- H₅: Information technology influences user satisfaction

METHOD

The research method used in this research is a quantitative causal method. The variables in this research consist of:

- a) Independent variable Facilities
(Fitriyani & Pramusinto, 2018) determines the indicators of library facilities are:
 - a. Library space: This indicator explains that a building designated as a library is expected to have a number of rooms to accommodate various library activities;
 - b. Library equipment This indicator explains that library furniture is in the form of furniture needed to accommodate collections, staff work areas, and reading/study areas for library visitors;
 - c. This indicator reading book collection explains that the collection is the basic capital of the library which will determine and support the smooth running of the library and its services.
- b) Independent variable Information Technology
Indicators of the usefulness of using information technology according to Narulita et al. (2022) include:
 - a. Quickly
 - b. Productivity
 - c. Effectiveness
 - d. Sharing jobs
 - e. Useful
- c) Mediating variable Service Quality
Dimensions for measuring service quality (Tjiptono, 2017):
 - a. Tangibles are tangible evidence of the care and attention given by service providers to consumers.
 - b. Reliability is the ability to provide accurate services according to promises and is the company's ability to carry out services in accordance with what has been promised in a timely manner.
 - c. Responsiveness is the willingness to help customers and provide appropriate services and is the company's ability carried out directly by employees to provide services quickly and responsively.
 - d. Assurance is employee knowledge and behavior to build customer trust and confidence in consuming the services offered.
 - e. Empathy is the company's ability, carried out directly by employees, to pay attention to individual consumers, including sensitivity to consumer needs.
- d) Dependent variable User Satisfaction
Satisfaction according to Bea at. Al (2018)
 - a. Complaints and Suggestions
 - b. Customer satisfaction survey

Each indicator will be measured using a Likert scale. The research was conducted during September – December 2023 at the National Library of the Republic of Indonesia. The

population in this study were users who visited the national library with a sample size of 100 people taken using convenience sampling techniques. Data was collected by distributing questionnaires to respondents, namely visitors at the Indonesian Library Services and Manuscripts Management Center unit. The analysis was carried out using path analysis after first carrying out validity and reliability tests and finally a sobel test to test the mediating variables.

RESULTS AND DISCUSSION

Results

Deskriptive Respondent

The research was conducted on 100 visitors who visited as respondents. Most of the users are men, students and visit the national library 2-5 times. The library's perception of facilities is that the national library has clear signage and the perception of information technology is that the national library has adequate ICT equipment. Users feel very satisfied because the national library provides facilities to provide criticism and suggestions and users feel that the quality of service is very good because the national library operates every day from Monday to Sunday 24 hours so that users' needs can be met.

Validity

Recapitulation of the results of the validity analysis of each variable is as follows:

Table 2. Validity

Variable	Number of Indicator	Result
Facilities	6	Valid
Information Technology	3	Valid
User Satisfaction	4	Valid
Service Quality	8	Valid

Source: Questionnaire results, data processed

Based on the analysis results, all indicators are valid for each variable so they can be used for further analysis.

Reliability

The results of the reliability test using Cronbach Alpha are as follows:

Table 3. Reliability Test

Variable	Cronbach Alpha	Result
Facilities	0.906	Reliabel
Information Technology	0.927	Reliabel
User Satisfaction	0.976	Reliabel
Service Quality	0.942	Reliabel

Source: Questionnaire results, data processed

Based on the results of the analysis, all respondents were reliable in answering all indicators so that they could be used for subsequent analysis.

Hypothesis testing

Structure 1

The results of data analysis are as follows:

Table 4. Structural Model Test 1

M	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.931	.912	.878	.34457

- a. Predictors: (Constant), Facilities, Information Technology
- b. Dependent Variable: Service Quality

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	69.971	2	34.845	373.050	.000
	Residual	13.235	98	.115		
	Total	83.206	100			

- a. Dependent Variable: Service Quality
- b. Predictors: (Constant), Facilities, Information Technology

Source: Questionnaire results, data processed

Based on the test results in Table 4, structure model 1 with sig 0.000 is correct with a model strength level of 91%, meaning that 91% of service quality can be explained by facilities and information technology.

Table 5. Structural Equation 1

Model	Unstandardized Coefficients		Standardized Coefficients		t	Sig.
	B	Std. Error	Beta			
1 (Constant)	.079	.160			.494	.623
Facilities	.317	.066	.317		4.800	.000
Information Technology	.662	.068	.639		9.687	.000

- a. Dependent Variable: Service quality

Source: Questionnaire results, data processed

Based on the test results in Table 5., with a sig of 0.000 the research hypothesis H₁ is correct, meaning that facilities have an effect on service quality and with a sig of 0.000 the research hypothesis H₂ is correct, meaning that information technology has an effect on service quality.

Structure 2

The results of data analysis are as follows:

Table 6. Structural Model Test 2

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.923	.899	.894	.36732

- a. Predictors: (Constant), Facilities, Teknologi Informasi, Service quality
- b. Dependent Variable: User Satisfaction

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	68.333	3	22.484	315.618	.000
	Residual	8.295	97	.073		
	Total	76.628	100			

- a. Dependent Variable: User Satisfaction
- b. Predictors: (Constant), Facilities, Information Technology, Service Quality

Source: Questionnaire results, data processed

Based on the test results in Table 6, structure model 2 with sig 0.000 is correct with a model strength level of 90%, meaning that 90% of user satisfaction can be explained by facilities and information technology and service quality.

Tabel 7. Structural Equation 2

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	.143	.132		1.084	.280
Facilities	.276	.059	.286	4.636	.000
Information Technology	.232	.076	.232	3.067	.003
Service Quality	.452	.076	.469	5.943	.000

a. Dependent Variable: User Satisfaction

Source: Questionnaire results, data processed

Based on the test results in Table 7, with a sig of 0.000 the research hypothesis H₃ is correct, meaning that service quality has an effect on user satisfaction, with a sig of 0.000 the research hypothesis H₄ is correct, meaning that facilities have an effect on user satisfaction and with a sig of 0.003 the research hypothesis H₅ is correct, meaning that service quality influence on user satisfaction.

Sobel Test

The results of data analysis are as follows:

Table 8. Sobel Test

Independen	A Coeff	B Coeff	SE _A	SE _B	Sobel test statistic	Sig.	Result
Facilities (A) → Service Quality (B) → User Satisfaction	0.317	0.452	0.066	0.076	3.737	0.000	Accepted
Information Technology (A) → Service Quality (B) → User Satisfaction	0.662	0.452	0.068	0.076	5.075	0.000	Accepted

Source: Questionnaire results, data processed

Based on the test results in Table 8, with a sig of 0.000 the research hypothesis that service quality as a mediating variable is correct, meaning that service quality mediates the influence of facilities on user satisfaction and with a sig of 0.000 the research hypothesis that service quality as a mediating variable is correct, meaning that service quality mediates the influence of information technology on user satisfaction.

Discussion

1. The Influence of Facilities on Service Quality

Improving the quality of services at the National Library of the Republic of Indonesia through improving facilities is in accordance with previous findings by Chasanah (2019) and Sukamdani (2009). These studies support that factors such as product quality, service, and location have a positive impact on customer or consumer loyalty. The analysis is consistent with previous research showing that improvements in facilities can create positive experiences for patrons, which in turn improves service quality. These results provide continuity in related literature and research, confirming that the concept of strategy in service is not only relevant in a business context but also applies in library management. By understanding and optimizing facility elements, libraries can build and maintain quality services more effectively, creating a stronger and more sustainable library ecosystem.

There are several reasons underlying the positive impact of facilities on the quality of services at the National Library of the Republic of Indonesia, in line with previous research. First, facilities can create better accessibility for users. Complete facilities make the library

easier to reach for visitors, increasing comfort and use of facilities. Second, the quality of service related to facilities provides a positive experience to users, such as efficient assistance, availability of relevant collections, and a comfortable atmosphere. Third, libraries that understand the needs of their users and position themselves strategically can provide more appropriate and relevant services. Thus, the results of this research provide an in-depth understanding of why facilities play an important role in increasing user loyalty, creating a strong foundation for the development of more effective and responsive library strategies.

2. The Influence of Information Technology on Service Quality

The results of research regarding the impact of information technology on service quality at the National Library of the Republic of Indonesia are in accordance with previous findings, as explained in research by Risparyanto (2017). This research shows that information technology not only has a direct effect on service quality, but also through a mediating variable, namely user satisfaction. Likewise, research by Inawati, et al. (2021), which shows that user satisfaction has a moderating role in strengthening the relationship between information technology and user quality. Therefore, the results of this study not only provide a deeper understanding of the importance of information technology but also support previous findings, confirming that positive interactions between librarians and patrons have a significant impact on the quality of library services.

The reasons for the positive impact of information technology on the quality of services at the National Library of the Republic of Indonesia can be explained through effective interpersonal interactions, informative services, and responsive assistance from librarians. Risparyanto (2017) suggests that when users feel satisfaction with the services provided by librarians, they tend to develop technology for the library. Apart from that, the findings of Inawati, et al. (2021) emphasize that user satisfaction moderates the positive influence of information technology on service quality, indicating that a high level of satisfaction strengthens the bond between librarians and users.

Another factor that may contribute is the role of librarians in helping users meet their information needs. Services are supported by sophisticated technology, librarians are skilled, useful, and oriented towards user satisfaction which then motivates users to remain loyal to the library. Overall, these findings are in line with theoretical views that underline the importance of interactive relationships between librarians and users in forming positive bonds, which in turn, improve the quality of library services.

3. The Influence of Service Quality on User Satisfaction

These results are in line with research conducted by Kesuma (2021) and Risparyanto (2017), which emphasizes the importance of user satisfaction as a moderator factor in forming a strong bond between service quality and user satisfaction. Thus, this research strengthens the understanding that increasing user satisfaction is the key to fostering service quality in the library environment.

The success in increasing user loyalty at the National Library of the Republic of Indonesia through increasing user satisfaction can be explained by the interaction mechanism between variables found in previous research by Kesuma (2021) and Risparyanto (2017). User satisfaction, as a moderator, has a substantial influence on service quality. The existence of a positive relationship between user satisfaction and service quality shows that positive experiences in libraries, especially in terms of service quality and librarian service, have a significant long-term impact on quality. Therefore, investment in improving service quality and efforts to meet user needs not only directly increase user satisfaction but also has the potential to increase the level of service quality. These findings provide a richer and more contextual view of the complex dynamics between these variables, encouraging libraries to continually improve the patron experience to achieve more positive outcomes in the future.

4. The Influence of Facilities on User Satisfaction with Service Quality as Mediators

The results of the hypothesis test which confirm the significant impact of facilities on user satisfaction at the National Library of the Republic of Indonesia are in line with previous findings. (Fitriyani & Pramusinto, 2018) and (Maulidiah., et., al, 2023), both show that facilities are an important factor that has a crucial role in shaping consumer or customer satisfaction. These results confirm the consistency of findings across different service and product contexts. The correspondence between these findings and previous research confirms that facilities are not just an influential variable, but a significant element in creating user satisfaction. The implication is that improvements in library facilities can be considered as an effective strategy to increase overall user satisfaction, supporting overall library activities in increasing user satisfaction.

The significant increase in user satisfaction at the National Library of the Republic of Indonesia in response to the facilities can be explained by several key factors. First, complete facilities provide easy accessibility for users in searching for information. Having a library in an easily accessible location can increase user engagement, giving them faster and more efficient access. In addition, facilities and services tailored to the needs of users in strategic positions can create a positive experience, strengthening users' attachment to the library. In this context, the interaction between these factors is the main key in understanding the positive impact of strategic position on user satisfaction. This finding is in line with the view that complete facilities are not just a complement to running a library, but also include excellence and services that meet user expectations.

5. The Influence of Information Technology on User Satisfaction with Service Quality as Mediators

These results are in line with research findings which note that librarians have an important role in increasing user satisfaction. Information technology not only helps to complete and simplify the running of libraries, but also with technological capabilities it is able to meet the needs of users. Paongan (2014) and Anggraeni (2016) in their research highlight the importance of technology in shaping user satisfaction. Therefore, the congruence of these findings with previous research strengthens the idea that Technology Use and user interactions play a crucial role in shaping positive user experiences, making libraries responsive and satisfying institutions for their users.

Information Technology that influences user satisfaction at the National Library of the Republic of Indonesia can be explained through several factors. First, librarians who have in-depth knowledge of Information Technology, especially in the field of libraries and can provide efficient assistance, improve the user's experience in searching for information. Second, good interpersonal skills enable librarians to establish positive relationships with patrons, creating a friendly and supportive environment. Apart from that, punctuality and the availability of librarians to help are also important factors. The success of librarians in providing services in line with competent IT capabilities, responsiveness and in accordance with user needs creates trust and comfort, which in turn increases user satisfaction. The results are in accordance with the findings in previous research, as presented by Paongan (2014) and Anggraeni (2016), confirming that a focus on the Application of Information Technology can be the main key in running a library.

CONCLUSION

The conclusion of this research is:

1. Facilities influence service quality
2. Information technology influences service quality
3. Service quality influences user satisfaction

4. Facilities influence user satisfaction both directly and indirectly with a mediator of service quality.
5. Information technology influences user satisfaction both directly and indirectly with a mediator of service quality.

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