

User Experience: Website Quality and Satisfaction of Low Vision Disabilities

Yusriyah Rahmah¹

¹ Universitas Brawijaya Malang, Indonesia

Corresponding Author : yusriyahrahmah@student.ub.ac.id

Abstract: *This study examines the relationships among service quality, user experience, and user satisfaction in website-based academic support services for low vision students at the Disability Service Center of Universitas Brawijaya. The study aims to evaluate how service quality is related to user experience and user satisfaction and to examine the role of user experience in the relationship between service quality and user satisfaction. Data were collected using a five-point Likert-scale questionnaire from respondents involved in the academic support process and analyzed using validity and reliability testing, classical assumption tests, regression analysis, and mediation analysis. The findings indicate positive and statistically significant relationships among service quality, user experience, and user satisfaction, while user experience also demonstrates a mediating role in the relationship between service quality and user satisfaction. These findings provide an empirical basis for understanding how service quality and user experience are associated with user satisfaction in website-based academic support services and highlight the importance of considering accessibility and user experience in services for low vision students.*

Keyword : *service quality, user experience, user satisfaction, website, low vision disability*

Copyright © 2025 Walisongo Journal of Information Technology

Submitted for possible open access publication under the terms and conditions of the Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License.



1. Introduction

The provision of academic support for students with disabilities requires services that are accessible, responsive, reliable, and aligned with users' needs. For students with low vision, limitations in visual perception may affect how information is accessed, how digital services are navigated, and how academic activities are supported. Therefore, evaluating academic support services requires consideration of not only service quality but also the experience and satisfaction perceived by users. Website-based services can serve as a medium for delivering academic information and facilitating interactions between students and academic support providers, making website quality and user experience relevant aspects to examine.

The Disability Service Center (PLD) at Universitas Brawijaya provides academic support for students with disabilities, including assistance related to the final assignment process. In this context, website-based services can support the delivery of academic information and interactions between students and service providers. However, the effectiveness of such

services depends on how users perceive their reliability, functionality, security, and ability to meet academic needs. The conditions identified in the PLD UB context include the lack of systematic recording of guidance results and the limited availability of final assignment procedures in the form of friendly and interactive videos. These conditions indicate the need to evaluate how users perceive the quality of website-based academic support services and how their interaction with these services is associated with user satisfaction.

Service quality refers to users' perceptions of the extent to which a service meets their needs and expectations. Indrasari (2019) explains that service quality involves efforts to fulfill users' expectations, needs, and preferences through appropriate service delivery, while Tjiptono and Chandra (2016) relate service quality to the fulfillment of user needs through service processes and environments. In website-based services, service quality can be reflected through aspects such as usability, performance, reliability, security, and functional suitability (Akdere et al., 2020; Raajpoot, 2004). User experience refers to users' perceptions and responses that arise through interaction with a product, service, or digital interface. Pei et al. (2020) identify aspects of user experience including satisfaction, convenience, consistency, audiovisual quality, and interactivity. In this study, user experience refers to perceptions and responses formed during interaction with the website-based service, whereas user satisfaction represents the users' overall evaluation of the service received. User satisfaction can be evaluated through characteristics such as ease of navigation, personalization, download delay, feature availability, and content presentation (Green & Pearson, 2009, 2011).

For students with low vision, the relationship between service quality, user experience, and satisfaction is closely related to the accessibility of information and digital interaction. Readability, information structure, navigation, content presentation, and interaction features may influence how users access and use a website-based service. Consequently, service quality in this context should not only concern the availability of functions but also the extent to which the service supports users' academic needs. Previous studies have discussed relationships between service quality and user experience (Gardner, 2009; Mamakou et al., 2024; Pang & Zhang, 2024), as well as relationships between service characteristics, user experience, and satisfaction (Ahmad & Dhoon, 2024; Guo et al., 2024; Hsu, 2024; Khamaj & Ali, 2024; Kumar et al., 2024; Zhang et al., 2024). These studies provide a basis for examining the relationships among the three constructs in digital service environments.

Nevertheless, previous research has not sufficiently examined these relationships in the context of website-based academic support services for students with low vision. In particular, limited attention has been given to the role of user experience as a mediating variable between perceived service quality and user satisfaction within disability support services. This gap is important because the experience formed during interaction with an accessible digital service may represent an intermediate mechanism through which perceived service quality is associated with users' overall evaluation of the service. Examining this relationship in the PLD UB context can therefore provide empirical evidence regarding the interaction between service quality, user experience, and satisfaction in academic support services for students with low vision.

Based on this research gap, this study aims to examine the relationships among service quality, user experience, and user satisfaction in website-based academic support services for students with low vision at PLD UB. Service quality is positioned as the independent variable, user experience as the mediating variable, and user satisfaction as the dependent variable. The study hypothesizes that service quality is positively related to user experience (H1), service quality is positively related to user satisfaction (H2), and user experience is positively related to user satisfaction (H3). Furthermore, user experience is hypothesized to mediate the relationship between service quality and user satisfaction (H4).

2. Method

2.1 Research design

This study employed a quantitative explanatory research design to examine the relationships among service quality, user experience, and user satisfaction. Service quality was positioned as the independent variable (X), user experience as the mediating variable (Y1), and user satisfaction as the dependent variable (Y2). The explanatory approach was used to examine the proposed relationships among these variables through hypothesis testing and to provide empirical evidence regarding the relationship between service quality, user experience, and user satisfaction in the context of academic support services for students with low vision at the Disability Service Center of Universitas Brawijaya (PLD UB). Because the data were collected through a questionnaire within a specific period, the findings are interpreted as statistical relationships among the variables rather than evidence of causal relationships.

2.2 Population and Sample

The population consisted of students with low vision at Universitas Brawijaya who were participating in the final assignment guidance process, together with related academic personnel, including accompanying tutors and supervising lecturers at PLD UB. The study employed a saturated sampling technique, in which all members of the defined population who met the research criteria were included as respondents. Data collection was conducted over a three-week period by distributing questionnaires to respondents who met the predetermined criteria. The use of saturated sampling was intended to include the entire accessible population within the study context.

2.3 Data Collection

Data were collected using a structured questionnaire with a five-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). The Likert scale was used to measure respondents' perceptions of service quality, user experience, and user satisfaction. The questionnaire items were developed according to the indicators used to operationalize each research variable. Before further analysis, the questionnaire responses were evaluated through validity and reliability testing to assess the adequacy and consistency of the measurement instrument.

2.4 Data analysis

Data analysis consisted of instrument testing, classical assumption testing, regression analysis, and mediation analysis. Validity testing was conducted using Pearson product-moment correlation to assess the relationship between each questionnaire item and its corresponding construct. Reliability testing was conducted using Cronbach's alpha to evaluate the internal consistency of the measurement instrument.

Classical assumption testing consisted of normality, multicollinearity, and heteroscedasticity tests. The normality test was conducted on the regression residuals, while multicollinearity was evaluated using tolerance and variance inflation factor (VIF) values. Heteroscedasticity was examined based on the significance value obtained from the residual analysis. These tests were conducted to assess whether the regression models met the required statistical assumptions.

Regression analysis was used to examine the relationships between service quality, user experience, and user satisfaction. The first regression model examined the relationship

between service quality and user experience, while the subsequent model examined the relationship of service quality and user experience with user satisfaction. Mediation analysis was then conducted to examine whether user experience mediates the relationship between service quality and user satisfaction. The hypothesis testing results were used to determine the statistical significance and direction of the relationships among the variables.

3. Result and Discussion

3.1 Instrument Testing

The measurement instrument was evaluated through validity and reliability testing before the hypothesis testing was conducted. Validity testing was performed using the Pearson product-moment correlation between each questionnaire item and its corresponding construct. Based on Table 1, all reported correlation coefficients are positive and statistically significant at the 0.05 level. The correlation coefficients range from 0.445 to 0.805, indicating that the questionnaire items are significantly associated with the constructs being measured.

However, the critical correlation value used in the original analysis should be verified against the actual number of respondents. Because the study reports 14 respondents, the value of 0.361 stated in the original manuscript may not correspond to the appropriate critical value for the statistical procedure used. Therefore, the validity decision should be recalculated using the appropriate degree of freedom and significance level based on the actual sample size. After this verification, the validity table should report the appropriate criterion used to determine whether each item is valid.

Table 1. Validity test results

Indicator	Pearson Correlation	Sig. (2-tailed)	Indicator	Pearson Correlation	Sig. (2-tailed)
X1_ Compatibility	0.805	0,000	Y1_ Audiovisual Quality	0.557	0,000
X1_ Performance	0.606	0,000	Y1_ Interactivity	0.711	0,000
X1_ Reliability	0.600	0,000	Y2_ Ease of Navigation	0.485	0,000
X1_ Security	0.456	0,000	Y2_ Personalization	0.445	0,000
X1_ Functional Suitability	0.790	0,000	Y2_ Download Delay	0.460	0,000
Y1_ Satisfaction	0.776	0,000	Y2_ Feature Availability	0.505	0,000
Y1_ Comfort	0.670	0,000	Y2_ Content Presentation	0.650	0,000
Y1_ Consistency	0.582	0,000			

Reliability Test: All statements from each variable of service quality (X), user experience (Y1), and user satisfaction (Y2) show a Cronbach's alpha value that exceeds 0.60. This high alpha number reflects a good level of internal consistency between the statements in each variable, as seen in the table. Therefore, it can be concluded that the statements used in the instrument have good reliability and can be trusted to measure the desired concept. As a general criterion, an instrument is considered reliable if the Cronbach's alpha value is ≥ 0.60 (Malhotra, 2004).

Thus, the results of the validity and reliability tests confirm that the measurement instruments used in this research are of adequate quality and can be relied upon to collect the required data.

Table 2. Reliability test results

Indicator	Cronbach's Alpha if Item Deleted	Indicator	Cronbach's Alpha if Item Deleted
X1_ Compatibility	0.811	Y1_ Audiovisual Quality	0.830
X1_ Performance	0.836	Y1_ Interactivity	0.835
X1_ Reliability	0.838	Y2_ Ease of Navigation	0.836
X1_ Security	0.848	Y2_ Personalization	0.839
X1_ Functional Suitability	0.808	Y2_ Download Delay	0.811
Y1_ Satisfaction	0.825	Y2_ Feature Availability	0.808
Y1_ Comfort	0.821	Y2_ Content Presentation	0.837
Y1_ Consistency	0.832		

Reliability testing was conducted using Cronbach's alpha to evaluate the internal consistency of the measurement instrument. The original Table 2 reports the values of Cronbach's Alpha if Item Deleted, with values ranging from 0.808 to 0.848 for the reported items. These values indicate that the removal of individual items would not substantially reduce the internal consistency of the corresponding measurement scale.

Nevertheless, because the reported table presents item-deletion diagnostics rather than the overall Cronbach's alpha for each construct, the reliability conclusion should be based on the overall Cronbach's alpha values for Service Quality, User Experience, and User Satisfaction. The final manuscript should therefore report the overall alpha coefficient for each construct before concluding that the three measurement scales are reliable.

Classic Assumption Test Results

The results of classical assumption tests, including normality tests, multicollinearity tests, and heteroscedasticity tests, have been evaluated. From the normality test results recorded in Table 3, the Sig value is 0.066, exceeding the threshold of 0.050. This indicates that the regression model shows a normal distribution. In accordance with Ghazali's (2018) explanation, when the Sig value is > 0.05, the residual model shows a normal distribution.

Table 3. Results of the One-Sample Kolmogorov-Smirnov Normality Test

Unstandardized Residuals		
N		14
Normal Parameters, b	Mean	.0000000
	Std. Deviation	3.27286747
Most Extreme Differences	Absolute	.066
	Positive	.054
	Negative	-.066
Statistical Tests		.066
Asymp. Sig. (2-tailed)		.200 ^{c,d}

a. Test distribution is Normal.

b. Calculated from data.

c. Lilliefors Significance Correction.

d. This is a lower bound of the true significance.

In the multicollinearity test, the service quality variable (X) has a tolerance value of 0.756 and a VIF value of 1.322, while user experience (Y1) shows the same tolerance value, namely 0.756, and a VIF of 1.322, as seen in Table 4. There is no sign -sign of multicollinearity, in accordance with the standards given by Ghazali (2018), where the tolerance value must be more than 0.100 and the VIF value must be less than 10.00.

Therefore, based on the results of the classical assumption evaluation, it can be concluded that all requirements have been met.

Table 4. Multicollinearity Test Results

Model		Unstandardized Coefficients		Standardized Coefficients		Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance VIF
1	(Constant)	4,882	1,430		3,413	,001	
	QUALITY OF SERVICE	,258	,083	,277	3,121	,002	,756 1,322
	USER EXPERIENCE	,495	,094	,468	5,286	,000	,756 1,322

a. Dependent Variable: USER SATISFACTION

The results of the heteroscedasticity test show that the service quality variable (X) has a Sig value of 0.563, while user experience (Y1) has a Sig value of 0.764, as shown in Table 5. In accordance with guidelines from Ghazali (2018), no heteroscedasticity is detected if Sig value > 0.05.

Table 5. Heteroscedasticity Test Results

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1,717	1,795		,957	,347
	QUALITY OF SERVICE	,064	,110	,121	,585	,563
	USER EXPERIENCE	,036	,119	,063	,303	,764

a. Dependent Variable: RABS_Res

Hypothesis Test Results

Tables 6 and 8 present the results of path analysis which can be translated into structural model equations (1) and (2). Details of the relationships between variables are also shown in Table 6. From this table, it can be seen that service quality has a significant positive impact on user experience ($\beta = 0.435$, Sig = 0.000), which supports H1. This means that improving the quality of services provided by institutions can improve user experience. Furthermore, service quality also has a significant positive effect on user satisfaction ($\beta = 0.493$, Sig = 0.003), supporting H2. This means that improving services provided by institutions can positively increase user satisfaction.

From Table 7, it can be seen that user experience has a significant positive impact on user satisfaction ($\beta = 0.397$, Sig = 0.001), supporting H3. This shows that improving user experience can increase user satisfaction. Thus, the path analysis results show that improving service quality significantly contributes to user experience, and user experience also contributes significantly to user satisfaction. The role of user experience as a mediator in the relationship between service quality and user satisfaction can be seen in Table 7. Based on the criteria you mentioned from Hair et al. (2017), it can be concluded that user experience acts as

a partial mediator. This is supported by the findings that the coefficient of the relationship between service quality and user experience, the coefficient between user experience and user satisfaction, and the coefficient of the relationship between service quality and user satisfaction through user experience are all positively significant. These findings support H4.

Therefore, these findings suggest that user experience plays an important role in bridging the relationship between service quality and user satisfaction. This emphasizes the importance of user experience in creating strong user satisfaction with disability services and disability service centers. Taking these findings into account, disability organizations can direct their efforts to improve service quality by considering user experience as the key to increasing user satisfaction.

Based on Tables 6 and 8, the regression equation can be formulated as follows:

$$\text{User experience} = 0.435 \text{ Service quality} \dots\dots\dots (1)$$

$$\text{User satisfaction} = 0.493 \text{ Service quality} + 0.397 \text{ User experience} \dots\dots\dots (2)$$

Table 6. Regression Test Results for the Relationship between Service Quality (X1) and User Experience (Y1)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	7,811	1,324		5,898	,000
	QUALITY OF SERVICE	,435	,077	,494	5,621	,000

a. Dependent Variable: USER EXPERIENCE

Table 7. Regression Test Results for the Relationship between Service Quality (X), User Experience (Y1) and User Satisfaction (Y2)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	4,062	,728		5,580	,000
	QUALITY OF SERVICE	,493	,120	,435	4,107	,000
	USER EXPERIENCE	,397	,110	,383	3,614	,001

a. Dependent Variable: USER SATISFACTION

Table 8. Hypothesis Test Results

Hypothesis	Variable	β	t	Sig.	Decision
H1	Service Quality→ User Experience	0.591	7,058	0,000	Significant
H2	Service Quality→ User Satisfaction	0.258	3,083	0.003	Significant
H3	User Experience→ User Satisfaction	0.271	2,634	0.010	Significant
H4	Service Quality→ User Experience → User Satisfaction	0.401	2,739	0.008	Significant

The discussion of these findings is based on the results of path analysis which describes the relationship between variables in a research model. The following is a discussion of these findings:

Effect of Service Quality on User Experience:

The findings show that improving service quality has a positive and significant impact on user experience, in line with the first hypothesis. This confirms that improving service quality means a better user experience, especially in the context of website design for students with low vision disabilities. These findings also strengthen the theoretical basis of service management, especially when applied to website design for this user group. In line with the findings of Bate & Robert (2023), these findings also support the research of Mamakou et al. (2024), Ma et al. (2024), and Pang et al. (2024). It provides a practical understanding of how these concepts operate in real situations, as well as complementing theoretical knowledge of how service quality influences user experience in the use of information technology. Organizations, especially Disability Service Centers, can use these findings to improve their services, including adapting website designs to better suit the needs of students with low vision disabilities, and providing better academic support with appropriate training to staff.

Effect of User Experience on User Satisfaction:

The findings show that the more positive the user experience, the higher the level of user satisfaction, supporting the third hypothesis. This emphasizes the importance of providing a positive user experience to increase user satisfaction. In line with the findings of Ahmad & Dhoon (2024), supports the findings of Kumar et al. (2024) and research by Khamaj & Ali (2024) as well Purnama, C., & Subroto, WT (2016). These findings also contribute to a deeper understanding of user experience in the context of website design for students with low vision disabilities, as well as validating the concept of mediation between service quality and user satisfaction. Organizations can use these findings to better prioritize user experience in their website development and direct efforts to improve both aspects simultaneously. It is recommended to regularly collect feedback from users, provide training to relevant parties on the importance of understanding user experience, and carry out regular monitoring and evaluation of user experience and user satisfaction.

Effect of Service Quality on User Satisfaction:

The analysis shows that service quality also has a positive and significant impact on user satisfaction, in accordance with the second hypothesis. In line with research by Ighomereho et al. (2023) and supports research by Pang & Zhang (2024), this confirms that improving services will increase overall user satisfaction. These findings deepen understanding of the relationship between service quality and user satisfaction in the context of website design for students with low vision disabilities, as well as testing the validity of theoretical concepts in service management literature. Organizations can use these findings to improve the quality of service in their website design and provide better academic support to students with low vision disabilities. It is recommended to regularly audit website accessibility, provide training to relevant parties on the importance of understanding user experience, and involve students with low vision disabilities in website development.

User Experience Mediation Role:

The analysis shows that user experience acts as a mediator between service quality and user satisfaction. Partial mediation occurs, where user experience partially explains the relationship between service quality and user satisfaction. In line with the findings of Zhang et al. (2024), supports the findings of Hsu (2024), and research by Guo et al. (2024). These findings

provide empirical validation of the concept of mediation in the context of service management, as well as deepen the understanding of partial mediation. Organizations can use these findings to better prioritize efforts to improve user experience in the design and development of their websites, and direct efforts to improve both aspects simultaneously. It is recommended to conduct further research on partial mediation in the context of website design for students with low vision disabilities and apply a more comprehensive user experience model in the website design and development process.

4. Conclusion

The findings show that service quality has a positive and significant influence on user experience in website design for students with low vision disabilities at Universitas Brawijaya who are undergoing the final assignment guidance process, by involving related academics such as accompanying tutors and supervising lecturers at the Disability Service Center. In addition, the findings also show that service quality has an impact on user satisfaction, and that user experience also acts as a mediator between service quality and user satisfaction, with partial mediation occurring.

These findings strengthen theories in service management by providing empirical evidence about the relationship between service quality, user experience, and user satisfaction in the context of website design for students with low vision disabilities. These findings confirm the concept of mediation in the context of service management by showing that user experience mediates the relationship between service quality and user satisfaction, albeit in the form of partial mediation. Organizations, especially Disability Service Centers, can use these findings to improve the quality of service in their website designs, with a focus on adapting the design to make it more accessible to students with low vision disabilities and optimizing academic support for them. These findings encourage organizations to prioritize user experience in the design and development of their websites, as well as collect regular feedback from users for continuous improvement.

It is recommended to conduct further research on partial mediation in the context of website design for students with low vision disabilities, as well as apply a more comprehensive user experience model in the website design and development process. Organizations are advised to provide training to relevant staff on the importance of understanding user experience and involving students with low vision disabilities in the website improvement and development process.

Thus, these findings not only provide a valuable theoretical contribution, but also provide practical guidance for organizations to improve services and user satisfaction in website design for students with low vision disabilities.

References

- Ahmad, S., & Dhoon, M. (2024). User experience of using e-government applications and its impact on user satisfaction: case of Jordan. *International Journal of Procurement Management*, 19(3), 386–412. <https://doi.org/10.1504/IJPM.2024.137147>
- Akdere, M., Top, M., & Tekingündüz, S. (2020). Examining patient perceptions of service quality in Turkish hospitals: The SERVPERF model. *Total Quality Management & Business Excellence*, 31(3–4), 342–352. <https://doi.org/10.1080/14783363.2018.1427501>
- Gardner, P. (2009). Bringing User Experience to Healthcare Improvement: The Concepts, Methods and Practices of Experience-based Design. *Health & Social Care in the Community*, 17(5), 533–534. https://doi.org/10.1111/j.1365-2524.2009.00883_4.x
- Guo, Q., Yang, X., & Xie, H. (2024). The impacts of mountain campsite attributes on tourists' satisfaction and behavioral intentions: The mediating role of experience quality. *Journal of Destination Marketing & Management*, 32, 100873. <https://doi.org/10.1016/j.jdmm.2024.100873>
- Hsu, C.-L. (2024). Does a gamified website matter? An extended UTAUT model with regulatory fit, user experience, engagement, and attitudes. *Entertainment Computing*, 50, 100658. <https://doi.org/10.1016/j.entcom.2024.100658>
- Khamaj, A., & Ali, A. M. (2024). Adapting user experience with reinforcement learning: Personalizing interfaces based on user behavior analysis in real-time. *Alexandria Engineering Journal*, 95, 164–173. <https://doi.org/10.1016/j.aej.2024.03.045>
- Kumar, A., Bala, P. K., Chakraborty, S., & Behera, R. K. (2024). Exploring antecedents impacting user satisfaction with voice assistant app: A text mining-based analysis on Alexa services. *Journal of Retailing and Consumer Services*, 76, 103586. <https://doi.org/10.1016/j.jretconser.2023.103586>
- Mamakou, X. J., Zaharias, P., & Milesi, M. (2024). Measuring customer satisfaction in electronic commerce: the impact of e-service quality and user experience. *International Journal of Quality & Reliability Management*, 41(3), 915–943. <https://doi.org/10.1108/IJQRM-07-2021-0215>
- Pang, H., & Zhang, K. (2024). Determining influence of service quality on user identification, belongingness, and satisfaction on mobile social media: Insight from emotional attachment perspective. *Journal of Retailing and Consumer Services*, 77, 103688. <https://doi.org/10.1016/j.jretconser.2023.103688>
- Raajpoot, N. (2004). Reconceptualizing Service Encounter Quality in a Non-Western Context. *Journal of Service Research*, 7(2), 181–201. <https://doi.org/10.1177/1094670504268450>
- Zhang, Y., Liang, C., & Li, X. (2024). Understanding virtual agents' service quality in the context of customer service: A fit-viability perspective. *Electronic Commerce Research and Applications*, 65, 101380. <https://doi.org/10.1016/j.elerap.2024.101380>