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# User-Centered Evaluation of A Library Website: WebQual 4.0 and IPA Approach

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**ABSTRACT**

**Background:** Academic library websites play a critical role in delivering digital services to users, making it essential to understand and evaluate service quality from the users' perspectives, particularly regarding usability, information quality, and service interaction quality.
**Purpose:** The study examines the service quality of an academic library website in Banda Aceh from users' perspectives by applying the WebQual 4.0 method and the Importance Performance Analysis (IPA) approach to identify website attributes that should be prioritized for improvement.
**Methods:** Data were obtained from 158 users through a questionnaire consisting of 22 valid and reliable indicators.
**Findings:** All indicators showed performance-to-expectation gaps, with an average conformity level of 92.12%, indicating that the website's performance has not fully met user expectations. The highest-performing indicator was the trustworthiness of information, while the lowest-performing indicator was the visual design of the website. IPA quadrant analysis identified four priority indicators for improvement: ease of use, user interface design, detailed information availability, and positive interaction experience.
**Originality/Value:** The integrated application of Webqual 4.0 and IPA effectively identified service quality gaps and provided strategic insights for improving the digital services of academic library websites, suggesting that systematic improvements in usability, interface design, and information presentation are essential to enhance user satisfaction.

**Keywords:** Library user satisfaction; Library website; WebQual

## 1. INTRODUCTION

Over the years, libraries have always been involved in collecting, organizing, and providing access to information for users. Libraries provide reliable, valid, and accessible information

resources. Traditionally, these services were derived from physical collections that were directly provided to users. However, advances in information technology have transformed libraries into digital platforms, increasing accessibility and improving service (González-Zamar & Abad-Segura, 2021). Modern libraries have undergone significant transformation along with the development of information and communication technology. Innovations such as online databases, digital collections, web-based Online Public Access Catalogs (OPAC), online help, and virtual reference services are now core components of the contemporary library ecosystem (Hashim et al., 2021). At the same time, the quality of a library website that is reliable, informative, and easy to use can lead users to switch to other service providers. Maintaining user satisfaction and engagement is essential to justify public funding and ensure the sustainability of library programs. Therefore, libraries must continue to innovate and improve the quality of their digital services to meet the evolving needs of users and maintain their relevance in the digital age (Verma et al., 2023).

The library examined in this study is presented under the pseudonym "XYZ Library," a public library located in Banda Aceh, Indonesia, that has developed a web-based service to facilitate public access to library information, digital resources, and reference services. Preliminary observations indicated that many users continued to conduct information searches manually rather than utilizing the website, suggesting that the platform has not been optimally adopted. This condition may be associated with several factors, including difficulties in website navigation, limited ease of information retrieval, and a less engaging interface design, all of which may discourage users from exploring the available digital resources (Toraman et al., 2023). Therefore, evaluating the quality of the XYZ Library website from the users' perspective is essential for understanding user experiences and identifying aspects requiring improvement.

To evaluate and improve website quality, two commonly used analytical methods are WebQual 4.0 and Importance-Performance Analysis (IPA) (Esmaeili Givi et al., 2023). WebQual 4.0 is a framework for assessing website quality from the user's perspective. This method consists of three main dimensions: usability, information quality, and service interaction quality. It evaluates user perception in two fundamental aspects, namely actual performance and expected performance. The difference between these two aspects indicates a satisfaction gap, where a large gap indicates that the service does not meet the expectations of the user (Kardanmoghaddam & Masoumi, 2022). WebQual 4.0 is an effective method for identifying website quality gaps, but it has limitations in determining the factors that have the greatest influence on user satisfaction (Ho & Huang, 2025). Therefore, this method is often combined with Importance Performance Analysis (IPA).

The combination of WebQual 4.0 and Importance Performance Analysis (IPA) has been effectively applied in various sectors. The integration of WebQual 4.0 and IPA provides a structured and data-driven approach to understanding service quality (Jayathunga et al., 2017). WebQual 4.0 is used to measure the quality of website services based on user perception, while IPA helps determine the priority of improvements on aspects that are considered important by users (Guzmán-Leguel & Rodríguez-Lara, 2025). This combination provides comprehensive insights into user satisfaction levels as well as strategic priorities for service improvement (Johnson et al., 2021).

Several studies have shown the importance of evaluating website quality in improving the quality of digital services and user satisfaction. In Malik's research, Malik stated that service quality, information quality, and user trust are the main factors that affect user satisfaction and loyalty to digital library services (Malik et al., 2024). Furthermore, Azeroual's

research found that website quality has a significant effect on user satisfaction and sustainable use intentions, especially through the aspects of ease of use and the quality of the information presented (Azeroual et al., 2023). Another study by Muftikhali shows that website quality evaluation using the WebQual approach is able to identify attributes that still need improvement to meet user expectations (Effendi et al., 2024). These findings indicate that comprehensive website quality measurement is needed to identify gaps between user performance and expectations and develop more effective service improvement strategies

Recent research shows that website quality plays an important role in increasing the satisfaction of digital service users. Website elements, including visual design, navigation design, and information design, also play a critical role in influencing user satisfaction (Guo et al., 2023). In addition, website quality significantly affects user attitudes, online interaction experiences, and the intention to continuously use digital library services (Pourjahanshahi et al., 2023). Furthermore, usability aspects, such as ease of navigation and accessibility, are key factors that determine the quality of user experience in digital services (Coronado et al., 2023). These findings indicate that information quality, ease of use, and interface design are important factors in improving user satisfaction.

The present study undertakes a user-centered evaluation of the XYZ Library website in Banda Aceh by employing the WebQual 4.0 framework and the Importance Performance Analysis (IPA) approach. The study examines website quality from the users' perspective by assessing three key dimensions (usability, information quality, and service interaction quality) to identify the attributes that require priority improvements and to provide evidence-based recommendations for enhancing the effectiveness of the library's digital services.

## 2. METHODS

This study aimed to evaluate the quality of a library website in Banda Aceh using the WebQual 4.0 method, which assesses website quality from the users' perspective. The evaluation compared users' perceptions and expectations regarding their use of the website to identify service gaps. WebQual 4.0 is a website quality evaluation method that has evolved into an important instrument for measuring website performance based on end-user perceptions. The method focuses on three interrelated dimensions: Usability, Information Quality, and Service Interaction Quality (Mamakou et al., 2024). The WebQual 4.0 questionnaire items are presented in Table 1.

**Tabel 1**. Questionnaires WebQual 4.0

| Code | Questionnaires |
|---|---|
| U1 | Easy to Operate Library Wesbite |
| U2 | Interaction with Library Website is Clear and Understandable |
| U3 | The site easy to navigate |
| U4 | The site easy to use |
| U5 | Attractive appearance |
| U6 | Appropriate to the type of site |
| U7 | Conveys a sense of competency |
| U8 | Positive experience |
| Q1 | Provides accurate information |
| Q2 | Provides believable information |
| Q3 | Provides timely information |
| Q4 | Provides relevant information |
| Q5 | Easy to understand information |

| | |
|---|---|
| Q6 | Information at the right level of detail |
| Q7 | Information in appropriate format |
| I1 | Good Reputation |
| I2 | Safe to complete transactions |
| I3 | Personalization Information feels secure |
| I4 | Interface Quality |
| I5 | Sense of Community |
| I6 | Communicate with the organization |
| I7 | Overall view of the website |

A subsequent analysis using Importance Performance Analysis (IPA) is conducted to determine which attributes most significantly affect user satisfaction and should be prioritized for improvement. The IPA tool categorizes indicators into four quadrants based on importance and performance levels, guiding the prioritization of improvement efforts.

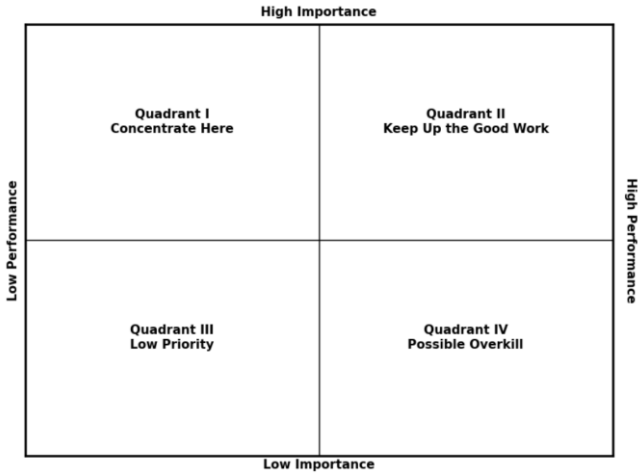



**Figure 1.** IPA Quadrant categories

IPA evaluates how important certain attributes are to users and how well they perform. It classifies these attributes into four quadrants: (1) Concentrate Here – high importance, low performance; (2) Keep up the Good Work – high importance, high performance; (3) Low Priority – low importance, low performance; and (4) Possible Overkill – low importance, high performance (Singh et al., 2023).

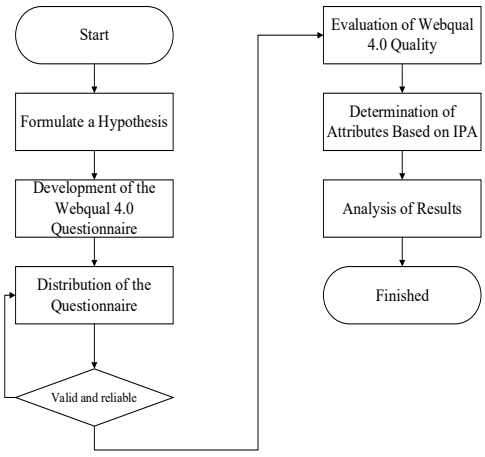



**Figure 2.** Research Flow Diagram

The WebQual 4.0 questionnaire consists of 22 items distributed across three dimensions. The *Usability* dimension includes indicators such as ease of use, intuitive navigation, website design, and its ability to enhance user competence (Sala et al., 2024). The *Information Quality* dimension assesses timeliness, relevance, detail, and ease of understanding of information provided on the website. The *Interaction Quality* dimension evaluates trust, security, privacy, user relationships, and the website's ability to facilitate communication between users and the organization. Each statement is coded (U1–U5, Q1–Q7, I1–I6) and rated using a Likert scale to measure both user perception (performance) and user expectation (importance).

Respondents for this research consist of individuals who have previously used the XYZ Library website in Banda Aceh. The sample size was determined using the Slovin formula with a 10% margin of error and a total population of 28,908 website visitors. The calculation yielded a required minimum of 100 respondents. However, to ensure data validity and reliability, the researchers distributed the questionnaire to 160 respondents. The collected data were analyzed using the WebQual 4.0 framework and IPA method to identify service quality gaps and prioritize improvement areas. This integrated approach provides a systematic foundation for enhancing website usability, information presentation, and service interaction quality to improve user satisfaction with the XYZ Library website.

## 3. RESULTS AND DISCUSSION

### Validity Test

The data collected through the distribution of questionnaires were then analyzed for further processing. The initial stage of data processing in this study was conducting a questionnaire validity test (Tarigan et al., 2024). The validity test was conducted to determine how valid the questionnaire is, to assess whether the questionnaire is appropriate to be distributed or if there are still shortcomings. The validity test was carried out by comparing the r calculated value with the r-table value. An item is considered valid if the r-calculated value is greater than the r-table value.

Respondents in this study were individuals who had previously used the XYZ Library website in Banda Aceh. Data from 160 respondents were analyzed. Therefore, the degree of freedom was calculated as follows:

$$df = n - 2$$
$$df = 160 - 2$$
$$df = 158$$

In this study, 158 respondents were used, and the significance level applied in the validity test calculation was 0.05. Based on the calculation using formula 2, the r table value was 0.154. The results of the questionnaire indicator validity test are shown in Table 2.

### Evaluation of WebQual 4.0 Quality

The next stage of this study is evaluating the quality using the WebQual 4.0 method. The quality evaluation process with Webqual 4.0 uses the recapitulated data from the performance and expectation questionnaires

**Table 2.** Performance and Importance Gap Levels of Website Users

| Indicator | Total Score | | Average Performance | | Level of Alignment |
|---|---|---|---|---|---|
| | Performance | Importance | Performance | Importance | |
| U1 | 596 | 667 | 3.73 | 4.17 | -0.44 |
| U2 | 588 | 656 | 3.68 | 4.10 | -0.42 |
| U3 | 575 | 654 | 3.59 | 4.09 | -0.50 |
| U4 | 578 | 668 | 3.61 | 4.18 | -0.57 |
| U5 | 540 | 649 | 3.38 | 4.06 | -0.68 |
| U6 | 569 | 652 | 3.56 | 4.08 | -0.52 |
| U7 | 601 | 659 | 3.76 | 4.12 | -0.36 |
| U8 | 636 | 661 | 3.98 | 4.13 | -0.15 |
| Q1 | 625 | 650 | 3.91 | 4.06 | -0.15 |
| Q2 | 648 | 651 | 4.05 | 4.07 | -0.02 |
| Q3 | 620 | 664 | 3.88 | 4.15 | -0.27 |
| Q4 | 617 | 663 | 3.86 | 4.14 | -0.28 |
| Q5 | 587 | 657 | 3.67 | 4.11 | -0.44 |
| Q6 | 589 | 668 | 3.68 | 4.18 | -0.50 |
| Q7 | 617 | 661 | 3.86 | 4.13 | -0.27 |
| I1 | 632 | 649 | 3.95 | 4.06 | -0.11 |
| I2 | 630 | 655 | 3.94 | 4.09 | -0.15 |
| I3 | 642 | 656 | 4.01 | 4.10 | -0.09 |
| I4 | 577 | 661 | 3.61 | 4.13 | -0.52 |
| I5 | 633 | 661 | 3.96 | 4.13 | -0.17 |
| I6 | 633 | 661 | 3.96 | 4.13 | -0.17 |
| I7 | 607 | 659 | 3.79 | 4.12 | -0.33 |

Table 2 presents the results of the gap level analysis for each evaluation indicator. The performance gap of the website compared to user expectation is calculated by subtracting the performance score from the importance score. Indicators with good performance and alignment with user expectations are indicated by a positive gap value (Q)≥ 0, meaning that the website's performance quality meets the ideal standards expected by users. Conversely, if the gap value (Q) is < 0 or negative, it implies that the quality of the website's performance does not yet meet user expectations.

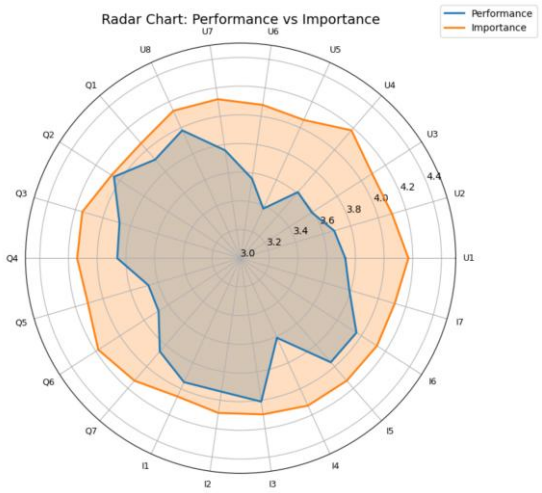



**Figure 2.** Level of Alignment Between Website Performance and User Expectations

Based on the radar chart and the data in Table 6, indicator Q2 (providing trustworthy information) has the highest level of alignment between users' perceived performance and

their expectations, at 99.54%. This indicates that the website successfully meets users' expectations regarding the information's reliability and credibility. Strength in this aspect is significant because trust in the information is a key factor influencing user satisfaction and loyalty.

Conversely, indicator U5 (attractive website appearance) has the lowest alignment level, at 83.2%. This indicates a gap between users' expectations and the actual performance of the website in terms of visual design or aesthetics. The impact is that although the website performs very well in delivering trustworthy information, a lack of visual appeal may reduce the overall user experience and potentially decrease user interest or comfort when accessing the website.

Overall, this radar chart shows that to improve the alignment between website performance and user expectations, improvement efforts should focus on visual and appearance aspects that fall short of expectations (such as indicator U5). By addressing these areas, the website can better balance information quality and overall user experience, thereby enhancing user satisfaction and engagement.

**Determination Of IPA Attributes**

The best average gap score among the evaluation indicators is found in indicator Q2, which refers to *providing reliable information*, with a gap value of -0.02. Meanwhile, the lowest quality indicator based on the performance-expectation gap is U5, referring to *an attractive website appearance*, with a score of -0.68**.** The results of this gap analysis between website performance and user expectations are visualized using a Cartesian quadrant chart, as shown in the following figure.

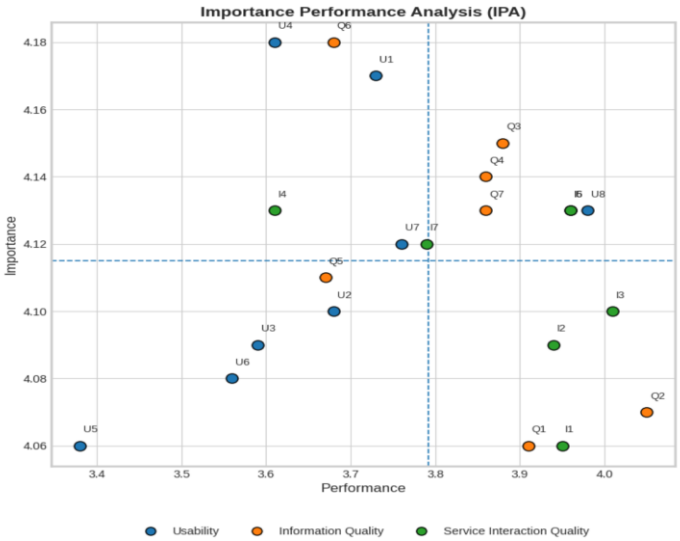



**Figure 3.** IPA Method Quadrant Assessment Diagram

Figure 2 shows the assessment of the gap between performance and expectations for each indicator. Quadrant I in the figure illustrates the indicators that should be the focus of improvement, with Quadrant I in this study consisting of 5 indicators: U1 with the item of ease of learning and operating the website, U4 with the item of ease of use of the website, U7 with the item of website appearance, Q6 with the item of accurate and detailed

information, and I4 with the item of a website that gives an impression that attracts interest and attention.

## DISCUSSION

The assessment results indicate that, in general, the performance of the XYZ Library website is relatively good, as shown by all indicators having a conformity level between user-perceived performance and user expectations greater than 80%. However, improvements are still necessary to enhance service quality and meet customer expectations. This is supported by the calculation and gap analysis between user performance and expectations using the IPA method, which shows that all evaluation indicators have a gap value of less than 0 or negative. This implies that the website's service performance has not yet optimally met user expectations. Improvements are then made based on the IPA method by focusing on the indicators in Quadrant I, which consists of five indicators: U1, U4, U7, Q6, and I4. This implies that the service performance of the XYZ Library website not yet optimally met user expectations.

This study evaluates the framework of fresh food e-commerce services using the Dual Importance-Performance Analysis (Du-IPA) method based on user-generated content (UGC) to comprehensively assess the quality of services through three main indicators. The results of the analysis using 3D cubes show performance gaps in various service attributes, where crucial factors such as cost-effectiveness are often hidden risks that have not met user expectations (Shen et al., 2026).

Studies have also shown that the combination of WebQual 4.0 and Importance Performance Analysis (IPA) is an effective approach to evaluating website quality from a user's perspective (Tarmuji & Akbardillah, 2023). The results of the study generally show that the dimensions of usability, information quality, and service interaction quality are the main factors that affect user satisfaction (Anwarudin et al., 2023). Although most of the online services evaluated had a high level of compliance with user expectations, there were still some attributes that showed a gap between the performance of the service platform and the expectations of users. In addition, attributes related to ease of use, information quality, reputation, and quality of service interaction are often top priorities in improvement efforts (Ūsas et al., 2024).

This indicates that, in general, website quality analysis using the WebQual 4.0 and IPA methods can be adapted to the contextual needs and purposes of the website. Information quality and appealing design often emerge as critical issues in website service quality, as reflected by indicators Q6 and I4, which require improvements in this study. However, website usability must also be considered to enhance the user experience when accessing the website of one of the libraries in Banda Aceh. This aligns with the findings of previous studies mentioned in this research.

## 4. CONCLUSION

The results of the study indicate that the website's performance of the XYZ Library website is generally good, as shown by the conformity level of all indicators, which is above 80%. However, all indicators have negative gap values, indicating that the performance of the XYZ Library website has not fully met user expectations. Based on the IPA quadrant analysis, five indicators in Quadrant I should be prioritized for improvement, namely U1, U4, U7, Q6, and I4. These indicators are related to ease of learning and operating the website, ease of use,

website appearance, accurate and detailed information, and the website's ability to provide an attractive and engaging interaction experience. Therefore, improvement efforts should focus on usability, interface design, information accuracy and detail, and service interaction quality to enhance user satisfaction. The integration of WebQual 4.0 and Importance Performance Analysis (IPA) provides a systematic user-centered approach for evaluating the quality of the XYZ Library website and identifying priority areas for digital service improvement.

**AUTHORS' CONTRIBUTIONS**

**Sri Rahmawati:** Writing original draft preparation. Ideas; formulation or evolution of overarching research goals and aims. **Riski Arifin:** Supervision. **Febi Silvia Alfina:** Supervision. **Mohammad Faddel Hidayah:** Supervision.

**CONFLICT OF INTERESTS**

We state that there are no known conflicts of interest linked with this publication, and that there has been no significant financial assistance for this work that could have influenced its outcome.

## REFERENCES

Anwarudin, A., Fadlil, A., & Yudhana, A. (2023). User's Satisfaction Analysis of the Academic Information Systems Quality using the Modified Webqual 4.0 Method and Importance-Performance Analysis. *ILKOM Jurnal Ilmiah*, *15*(1), 132–143. https://doi.org/10.33096/ilkom.v15i1.1531.132-143

Azeroual, R., El Haraoui, I., Qmichchou, M., & Salek, H. (2023). L'impact de la qualité du service électronique sur l'intention d'achat des consommateurs : Le rôle médiateur de la satisfaction. *International Journal of Financial Studies, Economics and Management*, *2*(1). https://doi.org/10.61549/ijfsem.v2i1.90

Coronado, E., Yamanobe, N., & Venture, G. (2023). NEP+: A Human-Centered Framework for Inclusive Human-Machine Interaction Development. *Sensors*, *23*(22), 9136. https://doi.org/10.3390/s23229136

Effendi M, Q., Satria, D., & Nurul Jamilah, E. (2024). Measuring the Quality of Higher Education Website using Webqual Method and Importance-Performance Analysis. *SISTEMASI*, *13*(3), 991. https://doi.org/10.32520/stmsi.v13i3.3666

Esmaeili G. M., Keshavarz, H., & Kargar Azad, Z. (2023). Quality assessment of E-learning website using asymmetric impact–performance analysis and Kano's customer satisfaction model: a case study based on WebQual 4.0. *Information Discovery and Delivery*, *51*(1), 35–46. https://doi.org/10.1108/IDD-08-2021-0083

González-Zamar, M.-D., & Abad-Segura, E. (2021). Digital Design in Artistic Education: An Overview of Research in the University Setting. *Education Sciences*, *11*(4), 144. https://doi.org/10.3390/educsci11040144

Guo, J., Zhang, W., & Xia, T. (2023). Impact of Shopping Website Design on Customer Satisfaction and Loyalty: The Mediating Role of Usability and the Moderating Role of Trust. *Sustainability*, *15*(8), 6347. https://doi.org/10.3390/su15086347

Guzmán-Leguel, Y. M., & Rodríguez-Lara, S. Q. (2025). Assessment of Patients' Quality of Care in Healthcare Systems: A Comprehensive Narrative Literature Review. *Healthcare*, *13*(14), 1714. https://doi.org/10.3390/healthcare13141714

Hashim, H., Shuhidan, S. M., & Anwar, N. (2021). Utilization of Web-based Information Services among University Students in Malaysian Academic Libraries: A Proposed Conceptual Framework. *Annals of Emerging Technologies in Computing*, *5*(5), 79–85. https://doi.org/10.33166/AETiC.2021.05.009

Ho, C.-C., & Huang, C. (2025). Transforming Habits Into Loyalty--Improving User Experience in Bike-Sharing Systems. *International Journal of E-Business Research*, *21*(1), 1–26. https://doi.org/10.4018/IJEBR.383731

Jayathunga, P., Jayawardana, J. M. D. R., Wimaladharma, C., & Herath, H. M. U. M. (2017). *Usability Recommendations for an Academic Website: A Case Study*. *7*.

Johnson, B., Steenbruggen, I., Graham, B. L., & Coleman, C. (2021). Improving spirometry testing by understanding patient preferences. *ERJ Open Research*, *7*(1), 00712–02020. https://doi.org/10.1183/23120541.00712-2020

Kardanmoghaddam, H., & Masoumi, M. (2022). Website quality assessment. A case study of GSM hosting forum. *Facta Universitatis - Series: Electronics and Energetics*, *35*(2), 199–216. https://doi.org/10.2298/FUEE2202199K

Malik, S. A., Fatima, T., Jia, Y., & Pannu, H. (2024). The influence of library service quality, library image, place, personal control and trust on loyalty: the mediating role of perceived service value and satisfaction. *International Journal of Quality & Reliability Management*, *41*(4), 1111–1129. https://doi.org/10.1108/IJQRM-05-2023-0167

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

Pourjahanshahi, F., Mollahosseini, A., & Dehyadegari, S. (2023). Website quality and users' intention to use digital libraries: Examining users' attitudes, online co-creation experiences, and eWOM. *Journal of Retailing and Consumer Services*, *74*, 103393. https://doi.org/10.1016/j.jretconser.2023.103393

Sala, A., Barbetti, L., & Rosini, A. (2024). Green Web Meter: Structuring and Implementing a Real-Time Digital Sustainability Monitoring System. *Sustainability*, *16*(17), 7627. https://doi.org/10.3390/su16177627

Shen, Z., Zhao, C., & Li, Y. (2026). Customer Requirements Analysis and Product Service Improvement Framework Using Multi-Source User-Generated Content and Dual Importance–Performance Analysis: A Case Study of Fresh E-Ecommerce. *Journal of Theoretical and Applied Electronic Commerce Research*, *21*(1), 19. https://doi.org/10.3390/jtaer21010019

Singh, H. P., Alshallaqi, M., & Altamimi, M. (2023). Predicting Critical Factors Impacting Hotel Online Ratings: A Comparison of Religious and Commercial Destinations in Saudi Arabia. *Sustainability*, *15*(15), 11998. https://doi.org/10.3390/su151511998

Tarigan, Y., Na'im, A., & Martha Devano, A. (2024). Analysis of HNI Website Service Quality Using Webqual 4.0 and Importance-performance Analysis (IPA) Methods in Sei Beduk District, Batam City. *KnE Social Sciences*. https://doi.org/10.18502/kss.v9i25.16956

Tarmuji, A., & Akbardillah, K. M. R. D. (2023). Quality Analysis of the Ahmad Dahlan University Digital Library Using the WebQual 4.0 and Importance Analysis Performance (IPA) Method. *Telematika*, *20*(3), 373. https://doi.org/10.31315/telematika.v20i3.8846

Toraman, N., Pekpazar, A., & Gumussoy, C. A. (2023). Conceptualization and Survey Instrument Development for Website Usability. *Informatics*, *10*(3), 75. https://doi.org/10.3390/informatics10030075

Ūsas, A., Jasinskas, E., & Štreimikienė, D. (2024). Impact of Website Quality and User Satisfaction on Consumer Loyalty in Lithuanian C2C E-Commerce Platforms. *Management & Marketing*, *19*(4), 710–724. https://doi.org/10.2478/mmcks-2024-0032

Verma, N. K., Deori, M., & Verma, M. K. (2023). Library Services During COVID 19. *DESIDOC Journal of Library & Information Technology*, *42*(6), 341–353. https://doi.org/10.14429/djlit.42.6.18130