

Analysis Of User Satisfaction With The Portalsia Website Based On The Webqual 4.0 Model

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ABSTRACT

The purpose of this study is to apply the WebQual 4.0 technique to assess user satisfaction with the academic PortalSIA UINSU website. In addition to a measurement for overall user satisfaction, the study concentrates on the three main components of the framework: usability, information quality, and service interaction quality. 24 enrolled students in the Information Systems study program were given a survey as part of a quantitative descriptive approach. The results indicate that while overall User Satisfaction scored 3.71 (Good), the scores for the underlying quality dimensions were mixed. Usability received a score of 3.51 (Good), and Information Quality scored 3.36 (Fair). The lowest score was for Service Interaction Quality at 2.92 (Fair), identifying it as the primary area of concern. Key issues contributing to this include slow system speed, delays in academic data updates (such as grades and GPA), and the absence of a direct feedback mechanism. The study concludes that the PortalSIA website is generally accepted but requires significant improvements in technical responsiveness and user communication channels to enhance the user experience fully. The findings demonstrate the effectiveness of the WebQual 4.0 model in providing a structured and objective assessment for evaluating web-based academic systems.

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1. INTRODUCTION

User satisfaction is a subjective assessment of the overall experience of using a service or product, especially a website, where user expectations are used to gauge performance [1]. Portal quality is a key factor in determining this satisfaction in academic digital ecosystems. Because of its multidimensional analysis that includes usability, information quality, and service interaction, the WebQual 4.0 framework has been widely recognized as a thorough tool for evaluating website quality [2]. This strategy is supported by prior research, which shows that user satisfaction levels are greatly impacted by easy access to information and a smooth functional experience [3]. Additionally, recent research shows that quality dimensions have asymmetric effects on user satisfaction, meaning that deficiencies in some areas might disproportionately lower the entire user experience [4]. The efficacy of user-system engagement is ultimately determined by these combined findings, which show that user happiness arises when platform service quality meets or exceeds user expectations.

Portalsia is a crucial platform for student academic activities, such as data access, Study Plan Card (KRS) administration, and academic result monitoring, since it serves as the main academic management system of

Universitas Islam Negeri Sumatera Utara (UINSU). Operational findings, however, point to a number of ongoing difficulties with the current implementation. Long loading times are a common occurrence for users, particularly during crucial academic times like course registration and grade submission windows. Additionally, academic data updates are frequently delayed; semester grades and cumulative GPAs show notable latency even when submitted by instructors, indicating that data synchronization mechanisms are inherently flawed. Additionally, the platform's interactive features are limited; it lacks structured suggestion channels or integrated feedback mechanisms that would allow users to report problems and provide input for system improvement.

The student body agrees that improvements in operational efficiency and user experience design are essential, even if they recognize PortalSIA's critical role in supporting academic operations. As a result, it becomes essential to conduct a methodical assessment of customer satisfaction using strict procedures. A organized framework for carrying out objective evaluation across the domains of usability, information quality, and service interaction is offered by the WebQual 4.0 approach. This study uses this tried-and-true approach to pinpoint specific areas for PortalSIA ecosystem improvement.

The study's primary objective involves empirical quality assessment of the PortalSIA UINSU platform using the WebQual 4.0 paradigm and examining its correlation with comprehensive user satisfaction. Despite the extensive use of WebQual 4.0 in academic system evaluations, institution specific studies within Indonesian higher education remain limited. The research novelty derives from targeted application of this validated framework to a previously underexamined academic system, generating evidence-based insights that transcend conventional technical evaluation. The anticipated outcomes will deliver actionable intelligence for institutional management, informing the evolution of a more user-centric and operationally efficient PortalSIA that optimally serves academic community requirements.

2. METHOD

A quantitative descriptive research methodology was used in this study to evaluate the PortalSIA UINSU website's quality. By choosing a quantitative approach, it was possible to get numerical data that could be used for systematic measurement of user impressions and objective analysis [5].

2.1. Research Instrument and WebQual 4.0 Framework

The assessment employed the WebQual 4.0 framework, a validated methodology for website quality evaluation [2], [6]. The study concentrated on three fundamental WebQual dimensions: Quality of Service Interaction, Information Quality, and Usability. To measure the overall dependent variable, an additional dimension called User Satisfaction was added. Indicators from these four characteristics were used to create a structured survey instrument. To measure respondent opinions, the measurement instrument used a Likert scale with a range of 1 (strongly disagree) to 4 (strongly agree). Accurate construct assessment and excellent internal consistency were guaranteed by the questionnaire's preliminary validity and reliability testing [7].

2.2. Data Collection Procedure

Data gathering was executed through an electronically distributed survey using Google Forms platform. The target population comprised actively enrolled students from the Information Systems department at UINSU. This specific cohort was chosen based on their frequent and intensive utilization of PortalSIA for essential academic operations including course registration (KRS), academic performance tracking, and instructional information access. The study engaged 24 participants through focused sampling methodology, ensuring the acquired data represented perspectives of regular system users, thus providing an authentic reflection of user interaction patterns [4]

2.3. Data Analysis Technique

The accumulated data underwent descriptive statistical examination. The analytical process included computation of mean values for each dimension and corresponding indicators within the WebQual structure. These calculated averages established the foundation for determining PortalSIA's performance levels across various quality dimensions. The resultant data was subsequently utilized to distinguish between aspects fulfilling

user requirements and those necessitating enhancement, thereby generating an evidence-based assessment of system capabilities and limitations.

3. RESULT AND DISCUSSION

This section presents the findings of the research and provides a comprehensive discussion based on the WebQual 4.0 framework. The results are elaborated through several sub-sections to facilitate a detailed understanding of the user experience with the PortalSIA UINSU website.

3.1. Respondent Demographics

The research involved 24 participants from the Information Systems department, with 70.83% being male and 29.17% female. Usage patterns revealed that respondents primarily accessed the PortalSIA platform during critical academic cycles, particularly for course selection and academic result verification, demonstrating purposeful engagement with the system's core functions.

Table 3.1. 1 Respondent Demographic Data

Description	Number	Percentage
Male	17	70.83%
Female	7	29.17%
Total	24	100%

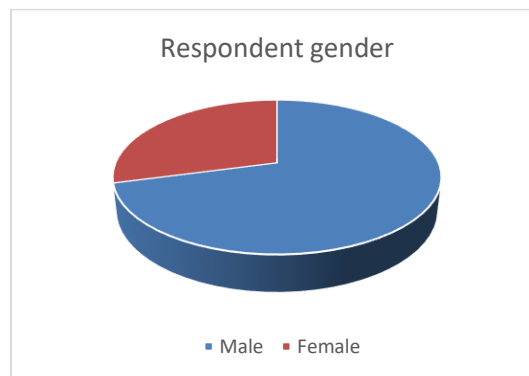


Figure 3.1. 1 Respondent Gender Diagram

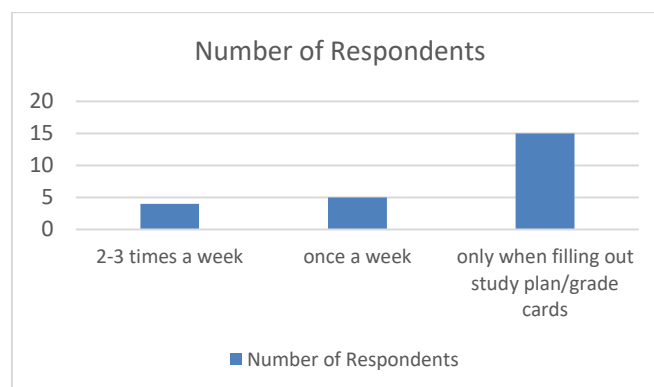


Figure 3.1. 2 Frequency Diagram of PortalSIA Usage

Figure 3.1.2 presents the distribution of PortalsIA usage frequencies, revealing that the majority of respondents, or 15 out of 24, access the system only when completing study plans or grade cards, another 5 respondents use it once a week, and the remainder access it 2-3 times per week. This usage pattern indicates predominantly task-oriented engagement, where users interact with the system primarily during critical administrative periods. The concentration of specific, occasional use indicates that while the system effectively serves its core administrative functions, user satisfaction is closely tied to the system's ability to deliver efficient and reliable performance during these critical time-sensitive tasks. The lower frequency of routine use presents an opportunity to enhance features that can encourage more consistent engagement beyond mandatory administrative requirements.

3.2. Dimensional Evaluation Results

Evaluation through the WebQual 4.0 framework yielded the following scores: Usability attained 3.51 (Good), Information Quality scored 3.36 (Fair), Service Interaction Quality recorded 2.92 (Fair), while Overall User Satisfaction reached 3.71 (Good). The noticeable gap between the satisfactory user experience and the moderate quality metrics implies users' adaptive acceptance of the system despite its technical constraints.

Table 3.2. 1 Average Results for Each Dimension of WebQual 4.0

Dimension	Average	Category
Usability	3.51	Good
Information Quality	3.36	Fair
Service Interaction Quality	2.92	Fair
User Satisfaction	3.71	Good

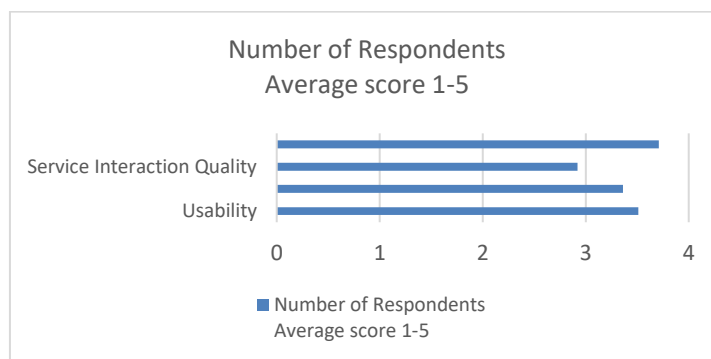


Figure 3.2. 1 Average Diagram for Each Dimension

3.3. Discussion of WebQual 4.0 Dimensions

a. Usability Dimension

With the highest performance score among quality dimensions (3.51), the portal demonstrates competent interface design and navigational structure. Nevertheless, system latency during high-traffic periods diminished the user experience. These observations correspond with established research [18] confirming that functional design substantially impacts user satisfaction in web-based platforms, while highlighting the necessity for robust technical infrastructure.

Table 3.3. 1 Average Usability Dimension Score

Statement	Average Score
PortalsIA UINSU is easy to use without needing help from others	3.79

The display and menu of PortalSIA UINSU are easy to understand	3.54
The login and navigation processes on PortalSIA UINSU run smoothly	3.21

b. Information Quality Dimension

The score of 3.36 reflects adequate information accuracy but reveals significant delays in data updates. The prolonged interval between grade submission and academic record publication contradicts fundamental principles [16] regarding timely information delivery in educational systems. The data processing workflow necessitates comprehensive review and enhancement.

Table 3.3. 2 Average Information Quality Dimension Score

Statement	Average Score
The academic information displayed on the UINSU PortalSIA is accurate and reliable	3.83
Semester grades and GPA data on the UINSU PortalSIA appear on time	2.67
The information on the UINSU PortalSIA is relevant and easy to find	3.58

c. Service Interaction Quality Dimension

The minimum score (2.92) indicates substantial deficiencies in interactive capabilities. The absence of integrated feedback channels and delayed system responses to operational issues corroborates previous findings [1,2] emphasizing the crucial role of responsive communication in fostering positive user-system relationships.

Table 3.3. 3 Average Service Interaction Quality Score

Statement	Average Score
PortalSIA UINSU rarely experiences errors or disruptions.	2.25
The system responds quickly when errors or access delays occur.	2.96
I feel that my personal data is secure on Portalsia UINSU.	3.54

3.4. Synthesis of User Satisfaction

The elevated satisfaction rating (3.71) concurrent with quality limitations illustrates the theoretical framework [12] wherein essential service provision can compensate for technical imperfections in indispensable systems, creating a complex satisfaction dynamic.

Table 3.4.1 Average User Satisfaction Dimension Scores

Statement	Average Score
I am satisfied with the overall performance of PortalSIA UINSU	3.33
PortalSIA UINSU helps me manage my academic activities	3.83
I will continue to use PortalSIA UINSU because it suits my needs	3.91

3.5. Implications of the Findings

The research outcomes deliver concrete improvement directives for PortalSIA administration: enhance system performance efficiency, accelerate data update processes, and establish responsive communication channels. These recommendations validate WebQual 4.0's practical utility for academic portal assessment, consistent with previous implementations [2,18].

Table 3.5.1 Comparison of Results with Previous Research

Researcher	Research Focus
Simanjuntak (2023)	WebQual academic system
Qurrotul Aini et al. (2023)	Evaluation of digital services
This Research	PortalSIA UINSU

4. CONCLUSION

This study successfully achieved its primary objective as outlined in the introduction: to empirically evaluate the PortalSIA UINSU website using the WebQual 4.0 model and analyze its relationship with user satisfaction. The empirical evaluation revealed distinct performance levels across the three quality dimensions: Usability achieved a score of 3.51 (Good), demonstrating competent interface design and navigational structure despite system latency during peak periods; Information Quality scored 3.36 (Fair), reflecting adequate accuracy but revealing significant delays in academic data updates, particularly in grade and GPA publication; and Service Interaction Quality recorded the lowest score of 2.92 (Fair), indicating substantial deficiencies in system responsiveness, error management, and the absence of integrated feedback mechanisms. Despite these mixed quality metrics, Overall User Satisfaction reached 3.71 (Good), suggesting users' adaptive acceptance of the system's essential role in academic operations. The findings presented in the results and discussion chapter confirm the initial proposition that a systematic assessment would reveal specific, data-driven insights into the system's strengths and weaknesses. The identified compatibility between the study's aim and its outcomes is evident; the research not only verified the overall user satisfaction level but also successfully diagnosed the underlying factors contributing to it, particularly highlighting the critical deficit in Service Interaction Quality. This alignment confirms the effectiveness of the chosen methodology in addressing the research problem.

The prospects for developing these research results are substantial. The immediate application lies in providing PortalSIA management with a clear, prioritized action plan focused on enhancing system responsiveness, ensuring timely data updates, and implementing a direct feedback mechanism. For the broader

academic community, this study reinforces the value of the WebQual 4.0 framework as a robust tool for the ongoing evaluation and iterative improvement of web-based academic services.

For further studies, several promising avenues emerge. Future research could expand on this work by employing a longitudinal design to measure the impact of the recommended improvements on user satisfaction scores over time. Integrating the Importance-Performance Analysis (IPA) method with WebQual would provide deeper strategic insights by distinguishing which quality attributes are most critical to users from those that are merely performing adequately. Finally, applying this combined approach to a larger and more diverse sample across different faculties would enhance the generalizability of the findings and contribute to a more comprehensive model for academic website quality enhancement.

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