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Website Quality Analysis of the Ogan Ilir District Health Office Using the WebQual Method

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Abstract

Information technology is one of the most widely utilized and continually improved tools in both private and public institutions. The Ogan Ilir District Health Office has adopted this technology through its official website, which functions as an information platform to communicate organizational performance, publish health-related data, and serve as an information resource for users. However, several weaknesses remain, including the absence of login or registration features (which prevents user interaction), the lack of a search function, outdated gallery content, and a non-responsive, less appealing interface. This study aims to analyze the quality of the Ogan Ilir District Health Office website using the WebQual 4.0 method, which evaluates usability, information quality, and service interaction quality based on user perceptions. The study adopts a quantitative approach to identify the extent to which these dimensions influence user satisfaction.

Keywords

Health Office, Information, Website Quality, Content, PLS-SEM, WebQual

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Introduction

In the current era of digital transformation, information has evolved into one of the most essential resources for individuals, organizations, and governments. The growing interdependence between technology and information management has profoundly changed how people access, process, and utilize data in everyday life. Digital technology accelerates the flow of information, enabling institutions to operate with greater accuracy, efficiency, and responsiveness. In this context, information systems serve as the backbone of modern organizational management, supporting the processing, storage, and dissemination of data that are essential for decision-making and public communication.

The successful implementation of information and communication technology (ICT) within an organization not only enhances internal operational performance but also improves the quality of services delivered to stakeholders. When properly managed, ICT systems can increase transparency, accountability, and accessibility—core elements in achieving effective governance and sustainable institutional development. In the public health sector, these benefits are particularly significant. Health institutions rely heavily on accurate and up-to-date information to coordinate programs, disseminate public health messages, and monitor community well-being. Therefore, digital systems such as official websites, health information portals, and e-administration platforms have become critical instruments for strengthening health governance and communication.

The Ogan Ilir District Health Office (Dinas Kesehatan Kabupaten Ogan Ilir), as a government body responsible for regional public health management, has taken steps toward digitalization through the establishment of an official website. The platform serves as a medium for publishing institutional news, program updates, public service announcements, and other information relevant to citizens. Ideally, this website should act as a strategic communication channel that bridges the interaction between the government and the public, allowing transparent dissemination of information related to health services, disease prevention, and community programs. However, preliminary observations indicate that the website's current design and functionality still fall short of optimal standards in terms of content relevance, interface design, and interactive features. These limitations reduce user engagement, weaken trust, and ultimately hinder the effectiveness of public information dissemination.

To improve digital service performance, it is essential to assess the website's quality through a structured and validated evaluation framework. The WebQual 4.0 model—an extension of the WebQual scale developed by Barnes and Vidgen—provides a comprehensive approach to measuring website quality from the user's perspective. The model evaluates three key dimensions: usability, which reflects the ease of navigation and interaction; information quality, which measures the relevance, accuracy, and completeness of website content; and service interaction quality, which assesses the responsiveness, personalization, and security of online interactions. By focusing on perceived user experience, the WebQual 4.0 framework allows institutions to identify strengths and weaknesses that may not be apparent through technical audits alone.

The adoption of WebQual 4.0 as the primary analytical framework is particularly suitable for evaluating government websites, where public satisfaction and accessibility are fundamental indicators of success. In the case of the Ogan Ilir District Health Office, applying this model provides valuable insights into how citizens perceive the usability and reliability of

digital health information services. The evaluation results can serve as a basis for redesigning website features, enhancing information structure, and improving service responsiveness. Moreover, understanding user perceptions helps the institution align its digital communication strategies with the expectations and needs of the community it serves.

Therefore, this study aims to evaluate the website quality of the Ogan Ilir District Health Office using the WebQual 4.0 model as an analytical tool. The research focuses on identifying the key dimensions that influence user satisfaction and determining the aspects of the website that require improvement. The findings are expected to contribute not only to the enhancement of the institution's digital performance but also to the broader objectives of e-government development, where public information systems are designed to promote transparency, efficiency, and inclusiveness. By integrating user-centered evaluation frameworks such as WebQual, public institutions can ensure that technological innovation truly enhances citizen engagement and service quality in the digital era.

Methodology

Population

The study population consisted of health workers in Ogan Ilir Regency who accessed the Ogan Ilir District Health Office website. According to institutional data, the total number of health workers in Ogan Ilir Regency was 1,949 individuals.

Sample Calculation

The calculated sample was rounded to 100 respondents, representing health workers who had accessed the website and responded to the questionnaire distributed directly by the researchers.

Research Instrument

The research employed a questionnaire divided into two main sections:

1. Demographic Data — collecting respondent information such as name, gender, education level, age, website usage frequency, and duration of access.
2. Research Variables — consisting of 20 questions representing 12 indicators within the WebQual 4.0 model, distributed across three dimensions: usability, information quality, and service interaction quality.

Responses were measured using a five-point Likert scale, ranging from strongly disagree (1) to strongly agree (5).

Results

Demographic Analysis

1. Gender The majority of respondents were female (73%), while male respondents accounted for 27%, indicating greater participation among female health workers.
2. Education Level Most respondents held a Diploma (D3) degree (63%), followed by Bachelor's (S1) (27%), Master's (S2) (8%), and high school (SMA) (2%).
3. Age The largest age group was 28 years old (53%), followed by 23–28 years (43%), and 17–22 years (4%), consistent with the APJII findings that the 19–34 age range constitutes the highest proportion of internet users in Indonesia.

4. Monthly Income The majority earned IDR 3–5 million per month (53%), followed by below IDR 1 million (29%), IDR 1–3 million (13%), and above IDR 5 million (5%).
5. Internet Usage Duration Most respondents had used the internet for 5–10 years (55%), followed by over 10 years (40%), 3–5 years (4%), and 1–3 years (1%).
6. Website Access Duration The majority accessed the website for less than one hour (55%), followed by 36% for 3–5 hours, 7% for more than 5 hours, and 2% for extended periods.

Outer Model Analysis

The measurement model was tested across four criteria:

1. Discriminant validity
2. Internal consistency
3. Item reliability
4. Average Variance Extracted (AVE)

References for model testing included Sarstedt, Ringle, & Hair (2017), Subiyakto et al. (2015), Wong (2013), and Nugroho & Sari (2016).

1. Item Reliability Indicators with outer loadings below 0.7 were removed to meet minimum validity standards.
2. Internal Consistency Composite reliability values exceeded 0.7, indicating high internal reliability (Hair et al., 2010).
3. Average Variance Extracted (AVE) All constructs had AVE values greater than 0.5, confirming adequate convergent validity.
4. Discriminant Validity Based on Fornell-Larcker analysis, each construct's square root of AVE exceeded its correlations with other constructs, confirming acceptable discriminant validity.

Inner Model Analysis

1. Path Coefficients All structural path coefficients were positive and exceeded the minimum threshold of 0.1, indicating significant relationships among constructs.
2. Coefficient of Determination (R^2) The coefficient of determination (R^2) was 0.67, signifying a strong explanatory power for the model.
3. T-Test A two-tailed t-test at a significance level of 0.05 was used to test hypotheses. Paths with t-values > 1.96 were significant. Results indicated that most hypotheses were supported, except the relationship between Information Quality (INQ) and Customer Satisfaction (CUS), which was not statistically significant (Hair et al., 2012; Wong, 2013).
4. Effect Size (f^2) Effect size interpretation followed Cohen's (1988) criteria: small (0.02), medium (0.15), and large (0.35). Variables showed small to moderate effects on satisfaction.
5. Predictive Relevance (Q^2) The blindfolding test yielded a Q^2 value of 0.489, confirming that the model possessed predictive relevance.
6. Relative Impact The relative impact test demonstrated that variables influenced one another with small to moderate magnitudes, consistent with Yamin and Kurniawan (2011).

Discussion

The findings of this study confirm that all four key dimensions of the WebQual 4.0 model—Usability (USQ), Information Quality (INQ), Service Interaction Quality (SIQ), and Content (CON)—positively influence user satisfaction (CUS) toward the Ogan Ilir District Health Office website, though with differing levels of impact. This result underscores that website quality is a multidimensional construct, where user experience depends not only on the technical and visual design but also on the quality of information and the effectiveness of digital service interactions. The integration of these four dimensions provides a holistic understanding of how users perceive the institution's digital communication and how improvements in website performance can directly contribute to greater public trust and engagement.

1. Usability (USQ → CUS)

The analysis revealed a positive and significant relationship between usability and user satisfaction, indicating that intuitive navigation, responsive design, and ease of access are fundamental to a positive user experience. This finding is consistent with Kadar, Napitupulu, and Jati (2017), who emphasized that website usability directly influences user perceptions of institutional credibility and accessibility. A website that is easy to navigate enables users to locate desired information efficiently, thereby reducing frustration and increasing their likelihood of revisiting the site. For the Ogan Ilir Health Office, improving usability means ensuring a responsive layout across devices, clear menu structures, and simplified navigation for accessing public health services and announcements. Enhancing these elements not only facilitates user interaction but also aligns with the principles of e-government inclusivity, ensuring that digital services remain accessible to users with varying levels of digital literacy.

2. Information Quality (INQ → CUS)

The dimension of information quality also exhibited a positive, albeit smaller, effect on user satisfaction. This suggests that while users value accurate and relevant content, other experiential factors such as design and interaction may have a stronger psychological influence. Nevertheless, Kurniawati, Kusyanti, and Mursityo (2018) and Bailey & Pearson (1983) emphasized that information accuracy, completeness, and timeliness are essential for building user trust and perceived reliability in information systems. For a government institution like Dinas Kesehatan, high-quality information—such as verified health advisories, vaccination updates, and emergency announcements—strengthens public confidence and supports evidence-based decision-making at the community level. Therefore, regular content updates, error-free publications, and integration with verified data sources are necessary to sustain long-term credibility and engagement.

3. Service Interaction Quality (SIQ → CUS)

Among all the dimensions examined, Service Interaction Quality (SIQ) demonstrated the strongest influence on user satisfaction, underscoring the critical role of digital communication and feedback mechanisms. This result reinforces findings by Nugroho and Sari (2016) and Sanjaya (2012), who argued that the perceived responsiveness and empathy of online service interactions significantly affect user attitudes toward digital government

platforms. For the Ogan Ilir Health Office, this dimension reflects the public's expectation of two-way communication—citizens seek not only information but also acknowledgment and response to their inquiries or reports. Features such as online consultation forms, complaint submission systems, and real-time response notifications enhance perceived service quality and foster greater user engagement. Consequently, improving interactive and participatory elements on the website can transform it from a static information repository into an active digital service portal, strengthening public participation in health governance.

4. Website Content (CON → CUS)

The content dimension also demonstrated a significant positive impact on user satisfaction, confirming that engaging, relevant, and up-to-date material substantially improves user experience. According to Prasetyo, Yulia, and Felisia (2017) as well as Rosalina (2017), website content that is dynamic, visually appealing, and regularly refreshed enhances user interest and retention. In the context of the Ogan Ilir Health Office, content serves as the primary interface between the institution and the public—providing health education materials, program schedules, and community event announcements. Thus, maintaining fresh and relevant content not only improves the aesthetic value of the website but also promotes continuous public awareness and involvement in health initiatives. Furthermore, optimizing content presentation through multimedia elements such as infographics, videos, and interactive health statistics can significantly increase engagement, particularly among younger audiences accustomed to visual digital communication.

5. Overall Implications

Overall, the combination of these four dimensions confirms that user satisfaction with public-sector websites is shaped by a synergy between technical functionality, content reliability, and interactive service delivery. The strong performance of the Service Interaction Quality dimension highlights a shift in user expectations—from passive information consumption toward active engagement and responsiveness. Meanwhile, the continuing importance of Usability and Content reflects the growing demand for seamless, accessible, and user-friendly digital environments. These findings suggest that the Ogan Ilir Health Office should adopt a user-centered web management strategy, emphasizing continuous usability testing, user feedback integration, and iterative content updates to maintain relevance and trust.

By applying the WebQual 4.0 model, this study not only identifies the determinants of website quality but also provides actionable insights for improving digital public service delivery. The findings reinforce the argument that effective government websites must balance aesthetic design, informative content, and interactive service mechanisms. In alignment with national e-government objectives, improving these aspects will strengthen transparency, accountability, and public engagement, supporting the broader agenda of digital transformation in Indonesia's public health sector.

Conclusion and Recommendations

Based on the findings, the following conclusions are drawn:

1. All tested hypotheses affecting user satisfaction (CUS) were accepted, confirming that website quality strongly influences user perception.
2. The most significant factors influencing satisfaction were, in order:Service Interaction Quality → Customer Satisfaction,Content → Customer Satisfaction,Information Quality → Customer Satisfaction, andUsability → Customer Satisfaction.
3. Overall, 64% of respondents expressed satisfaction with the website's quality and functionality, while 56% noted that its visual appeal and interface design were lacking.
4. The combined variables explained 71.6% of the variance in user satisfaction.
5. For future studies, deeper exploration of Service Interaction Quality is recommended, along with the inclusion of additional indicators within the End-User Computing Satisfaction (EUCS) model to obtain a more comprehensive understanding of user needs.

Disclosure Statement

The authors declare no conflict of interest concerning the research, authorship, or publication of this article.

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Biographical Notes

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