

QUALITY ANALYSIS OF E-COURT WEBSITE ON USER SATISFACTION USING WEBQUAL 4.0 AND IMPORTANCE PERFORMANCE ANALYSIS (IPA)

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Abstract: The purpose of this study was to determine the quality of the website using the Webqual 4.0 and Importance Performance Analysis (IPA) methods and recommendations on how to improve it to improve website quality. The population of this research is website users. The sample of this study amounted to 61 respondents. This research utilizes the website quality (Webqual) analysis method to measure the quality level of the E-Court website from users' perception to determine the gap between reality and user expectations. Then this research also uses Importance Performance Analysis (IPA) to determine the quadrant grouping of each attribute of the statement, which can be seen in which attributes are the most important. This study also uses Importance Performance Analysis (IPA) to find out the quadrant grouping of each attribute, which can be seen in which attributes are prioritized for improvement later to improve the quality of the website. Based on the results of the Webqual analysis, it was found that there is a gap between reality and the expectations of website users. Based on the results of the IPA analysis, it can be shown that four attributes are the top priority in improving the quality of the website provided.

Keywords: Website Quality, User Satisfaction, Importance Performance Analysis

1. Introduction

The website has functions such as media promotion, marketing, information, education, and also communication. Websites are commonly used by all groups, both for work and education[1]. E-Court is an electronic court instrument that presents services to the public in seeking justice; on the E-Court website, 4 services can be used by the public, namely case registration, payment, summons, and trial, which can be done online. E-court is an instrument applied by the court that is expected to improve its services and usefulness in online case services so that the public can save more time[2]. E-court service is a form of service that can be easily accessed by the public wherever they are to realize the updates made by the Supreme Court. However, because the E-Court website is still newly developed, in its implementation, there are still problems or disturbances when it is being used, such as inaccessibility and errors when accessing the menu. Thus, conducting an in-depth examination of the E-Court website is essential to identify factors that affect user satisfaction.

WebQual method is used to measure the quality level of a website with the perception of end users based on three-dimensional variables, namely Usability, Information Quality, and Service Interaction Quality. This method is based on Quality Function Deployment (QFD) principles. This WebQual method has undergone several changes, ranging from the

factors that influence this method when compiling to the questions in this method. WebQual already has several versions, and each existing version is used in research.

To assess the quality of the dimensions of the WebQual method on a website, it is necessary to measure the analysis with the IPA method. The IPA method is a measurement method that compares the service quality's performance and the user's importance to the service quality. The IPA method was first presented in 1997 by John A. Martilla and John C. James. IPA analysis can be divided into three uses: suitability level analysis, gap level analysis (GAP), and quadrant analysis with variable dimensions of usability, information quality, and service interaction quality.

2. Theoretical Review

Quality refers to all parts or features of a product or service that produce value to meet customers' needs[3]. Meanwhile, another opinion explains that traditionally, quality is the identity of a product that reflects the direct nature or character of a product, such as ability, performance, ease of use, and so on. Quality refers to the totality of a product's characteristics that support its ability to meet predetermined or specified needs, where customer satisfaction or confirmation of the requirement is usually a measure of quality[4]. Excellent service is something. Website expertise is software that has a function to convey information and show administration on a web that can be accessed by users of software that must be connected to the internet[5]. The things that can load on a web page are information such as text, images, videos, or animations. Websites are divided into two types [6], namely static websites (information is not updated) and dynamic websites (information can be updated).

E-Court is a court tool to support the community by providing online services such as case registration, payment of fees, summoning parties, and trials that include the delivery of trial administration such as results, replicas, decisions, conclusions, and duplicates. According to the Supreme Court E-Court guidebook (2019), there are four services contained in E-Court, namely: Online Case Registration (E-Filing), Online Fee Payment (E-Payment), E-Summons, and E-litigation. User satisfaction is when users feel satisfied because of the fulfillment of user information related to user attitudes or responses to system interactions[7]. One of the main indicators of the success of a website is user satisfaction. Website quality must meet user expectations, which will result in user satisfaction. Conversely, poor website quality will lead to user dissatisfaction. Therefore, website quality must exceed or meet user expectations.

WebQual 4.0 is an evaluation process that is useful as a step to measure the quality of a website. Initially, WebQual 4.0 originated from the development of ServQual which was initially widely applied to assess service quality, then adapted into WebQual 4.0. Quality Function Development (QFD) is a step in improving the WebQual 4.0 methodology through an implementation improvement method based on the "voice of the customer" regarding the quality of goods and services[8]. QFD (Quality Function Development) applies quality evaluation to a website by utilizing the WebQual 4.0 method which focuses on the end user's view of the site they will access. With this approach, website managers can utilize WebQual 4.0 as a guide to achieving the desired quality standards, to get important feedback from end-users. This can help website administrators take corrective measures that are in line with end-user perceptions and needs. According to Barnes & Vidgen, there are three dimensions used in WebQual 4.0 to evaluate websites, as for the three dimensions that can be used by WebQual 4.0, namely: Usability, Information Quality, and Interaction

Quality. Based on the three dimensions above, it was then developed into twenty-two question indicators to measure WebQual 4.0.

According to [9] the IPA method is applied to carry out an analysis for service assessment which is seen from the reality and expectations of service users on an indicator. The main purpose of Importance Performance Analysis (IPA) is to function as a diagnostic tool, which means that this tool is used to make it easier to identify attributes based on individual interests, whether a product or service has good or bad performance. Interpretation for product & service performance can be shown on a graph in the form of cartesian degrees, where the graph consists of quadrants A, B, C, and D. According to Martila & James, the following is an explanation of each quadrant of the cartesian diagram that can be understood, namely: Quadrant A "Priorities for improvements, Quadrant B "Keep up the good work", Quadrant C "Lowest Priority" and Quadrant D "Possible Overkill".

3. Research Method

The population in this research is the users of the E-Court website of the Tanjung Pinang State Administrative Court. This research utilizes a nonprobability sampling technique using a purposive sampling technique or based on criteria. To determine that the data obtained by this study is suitable for use, it is necessary to carry out validity and reliability tests first in this study. Data can be considered valid if the value of the r count is greater than the r table. Then, test the reliability by utilizing Cronbach's Alpha guidelines, the data can be considered reliable if the value of Cronbach's Alpha > 0.60[5].

After the data is declared valid and reliable, it can be continued by carrying out data processing with the Website Quality (WebQual) method, then mapping is carried out with the Importance and Performance Analysis (IPA) method to determine the priorities for improving the quality of the E- Court website of the Tanjung Pinang State Administrative Court.

4. Results and Descriptions Construct Reliability

This study obtained data by distributing questionnaires to 61 respondents from users of the E-Court website of the Tanjung Pinang State Administrative Court. This research uses 3 dimensions, namely Usability, Information Quality, and Interaction Quality. There are 4 scales used to measure the level of satisfaction, namely Very Satisfied, Satisfied, Quite Satisfied, and Very Dissatisfied.

Then the following tables show each attribute used to measure the 3 dimensions of website quality, including:

Table 1. Attributes of WebQual Dimensions

Code	Attributes
Usability	
P1	The website is easy to operate and understand
P2	The website is easy to understand and clear interactions
P3	The website has very clear instructions
P4	The website is easy to apply
P5	The website has an attractive design

	appearance
P6	Design relates to the type of website
P7	Websites add to competencies
P8	The website generates a positive experience
Information Quality	
P9	The website provides accurate information
P10	The website provides reliable information
P11	This website delivers information in a timely manner
P12	The website provides relevant or appropriate information delivery
P13	The website provides clear and concise information
P14	The website provides detailed information
P15	The website provides information-based on the right format
Interaction Quality	
P16	Website is reputable
P17	Transacting on this website is safe
P18	This website stores my personal information securely
P19	The website makes an impression
P20	This website gives a sense of belonging to a community
P21	This website facilitates communication with other organizations
P22	With this website, I have confidence that products and services will be delivered as promised.

Source : Barnes & Vidgen, 2002

Research Instrument Test Validity Test

The validity test is a test carried out to measure the valid level of data on an instrument. The validity test in this study was carried out by comparing the calculated r value obtained with the r table (0.2521). The results of the validity test of this study are divided into two groups, namely the expectation and reality groups. The results of the validity test in the reality group are:

Table 2. Validity Test Results in the Reality Group

Attributes	r count
P1	0,645
P2	0,611
P3	0,539
P4	0,588
P5	0,526
P6	0,554
P7	0,622
P8	0,618
P9	0,432

P10	0,627
P11	0,695
P12	0,596
P13	0,591
P14	0,631
P15	0,519
P16	0,603
P17	0,637
P18	0,549
P19	0,652
P20	0,573
P21	0,585
P22	0,665

Source: Researcher Data Processing, 2024

Based on the results of the validity test in the reality group presented in the table above, it can be noted that each statement has a calculated r value greater than the r table. Therefore, all statements in the reality group are declared valid. Furthermore, the validity test results obtained in the hope group are contained in the following table:

Table 3. Validity Test Results in the Group of Hope

Attributes	r count
P1	0,760
P2	0,672
P3	0,494
P4	0,714
P5	0,548
P6	0,503
P7	0,613
P8	0,612
P9	0,606
P10	0,480
P11	0,662
P12	0,359
P13	0,729
P14	0,611
P15	0,590
P16	0,716
P17	0,636
P18	0,592
P19	0,557
P20	0,608
P21	0,536
P22	0,706

Source: Researcher Data Processing, 2024

Based on the results of the validity test in the hope group presented in the table above,

it can be noted that each statement has a calculated r value greater than the r table. Therefore, all statements in the hope group are also declared valid.

Reliability Test

Reliability tests are needed because they can show the same data as the measurement objectives. An instrument is reliable, namely if the attribute has a Cronbach alpha value > 0.60. The results of the reliability test of this study are divided into two groups, namely the expectation and reality groups, namely:

Table 4. Research Reliability Test Results

Group	Cronbach Alpha
Reality	0,912
Hope	0,918

Source: Researcher Data Processing, 2024

Based on the results of the reliability test on the expectation and reality groups presented in the table above, it can be noted that the *Cronbach alpha* values in both groups are greater than 0.60. Therefore, it can be interpreted that each attribute in this study is reliable and the research can be continued.

Website Quality (WebQual) Measurement Results

The gap value for each question in the Webqual Quality (WebQual) method is obtained based on the difference between the reality value and the expected value. In this gap analysis using the formula $Q = P - E$, where P is the value of a currently perceived quality. Meanwhile, E is the value of an expected quality. If the gap value shows the result of a negative satisfaction value (<0), it indicates a gap between user expectations and reality, or the current quality is not what is expected by the user. Then if the satisfaction value is positive (> 0), it shows that the quality has exceeded the level of user satisfaction. Then if the satisfaction value is equal to zero (= 0), it shows that the quality of service is by user expectations[10]. The following are the results of the calculation of the gap value on each attribute:

Table 5. Calculation Results in GAP Value on WebQual

Attributes	Reality Score	Expected Score	Gap
P1	3,36	3,56	-0,2
P2	3,64	3,70	-0,06
P3	3,57	3,49	0,08
P4	3,49	3,54	-0,05
P5	3,46	3,56	-0,1
P6	3,66	3,59	0,07
P7	3,43	3,57	-0,14
P8	3,62	3,61	0,01
P9	3,64	3,61	0,03
P10	3,69	3,66	0,03
P11	3,52	3,57	-0,05
P12	3,64	3,70	-0,06

P13	3,57	3,62	-0,05
P14	3,56	3,61	-0,05
P15	3,54	3,66	-0,12
P16	3,67	3,54	0,13
P17	3,66	3,62	0,04
P18	3,66	3,69	-0,03
P19	3,49	3,64	-0,15
P20	3,51	3,61	-0,1
P21	3,59	3,57	0,02
P22	3,49	3,59	-0,1
Average	3,56	3,60	-0,04

Source: Researcher Data Processing, 2024

Based on the table, it can be seen that the average *gap* value obtained is -0.04 which means that the *gap* value obtained is less than zero (<0), which interprets that there is a *gap* between reality and user expectations. Therefore, this means that the quality of an *E-Court website* at the Tanjung Pinang State Administrative Court is still unable to meet user expectations of the quality that has been provided. This happens because the *E-Court website of the Tanjung Pinang State Administrative Court* still has not produced a very optimal quality that is felt by users when using the *E-Court website of the Tanjung Pinang State Administrative Court*.

Importance Performance Analysis (IPA) Measurement Results

The grouping of attributes in the questionnaire through the Importance Performance Analysis (IPA) diagram is divided into four quadrants. These four quadrants are useful to determine the priority of improvements to the quality of the E-Court website viewed from the reality and expectations of respondents on each research attribute.

The following is the distribution of attributes based on the results of the calculation in the form of the following Cartesian diagram:

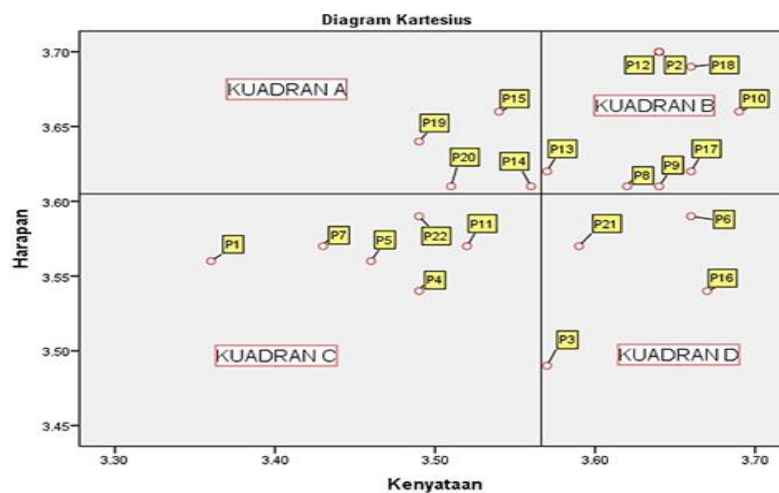


Figure 1. Cartesian diagram
Recommendations for Improving the Quality of the E-Court Website

Based on the analysis that has been carried out on the Importance Performance Analysis (IPA) method, the results show that there are several website quality attributes contained in quadrant A "Priorities for improvements" where quadrant A is an attribute or item that has a low value at the reality level but at the level of expectation has a high value. Thus, the attributes or items in this quadrant require high-priority handling by the Tanjung Pinang State Administrative Court because the existence of this factor is considered very important by users, while its implementation is considered unsatisfactory by users.

Based on the results in the Cartesian diagram contained in Figure 4.5, it can be seen that several attributes are the main priorities in improving the quality of the E-Court website in the future at the Tanjung Pinang State Administrative Court, including the availability of detailed information on the website (Information Quality), the website provides information based on the right format (Information Quality), the website gives its impression (Service Interaction Quality), this website gives a sense of being part of the community (Service Interaction Quality).

5. Conclusion, Suggestions, and Limitations

Based on the results of the research and discussion in the previous chapter, the conclusions obtained in this study are:

1. The results of the analysis are considered unsatisfactory for users of the E-Court website based on the average gap value generated which is -0.04 or less than zero (<0), which interprets that there is a gap between reality and user expectations or the quality of an E-Court website at the Tanjung Pinang State Administrative Court still cannot meet user expectations for the quality provided. Analysis of attributes that are considered not satisfying the user, among others: (1) The availability of detailed information on the website; (2) The website provides information based on the right format; (3) The website gives a distinctive impression, and (4) The website provides a sense of belonging to the community.
2. The following are recommendations for improvement based on the results of the analysis that has been done, namely: (1) Attribute "Availability of detailed information on the website" by updating the information on the E-Court website then rearranging the information on the E-Court website clearly and in detail on the E-Court website so that users can more easily understand in accordance with the information needed; (2) Attribute "The website provides information based on the right format" by making improvements to the information on the E-Court website then the information is arranged in accordance with the predetermined format so that the information available is of higher quality; (3) The attribute "The website gives a distinctive impression" by way of improvements that can be made, namely making a quality website with an attractive design on the E-Court website by reflecting professionalism and credibility for E-Court website users so as to give a positive impression to its users, and (4) The attribute "This website gives a sense of being part of the community" by synchronizing the E-Court website with an interactive chat platform. This integration with the interactive chat platform allows E-Court website users to share website content easily, thus increasing the visibility and popularity of the E-Court website.

References

- [1] N. W. J. K. Dewi, I. M. Candiasa, and G. Indrawan, "Evaluasi Website Sistem Informasi Perencanaan Studi Stmik Stikom Indonesia Ditinjau Dari Pengguna Mahasiswa Menggunakan Teknik Webqual 4.0, Firstclick, Dan Heuristik," *J. Nas. Pendidik. Tek. Inform. JANAPATI*, vol. 9, no. 2, pp. 266–280, 2020.
- [2] M. Fadlan, I. T. Saputra, and S. Suprianto, "Pengukuran Kualitas Website E-learning Pada Perguruan Tinggi Di Kalimantan Utara Dengan Webqual 4.0," *J. Sisfokom (Sistem Inf. dan Komputer)*, vol. 11, no. 3, pp. 304–309, Dec. 2022.
- [3] S. Raharja, R. Fadhli, M. Bustari, and W. M. Wijaya, "Analysis of the quality of the vocational high school library website with the WebQual 4.0 method," *Berk. Ilmu Perpust. dan Inf.*, vol. 18, no. 2, pp. 219–231, Dec. 2022.
- [4] I. G. N. S. Wijaya, E. Triandini, E. T. G. Kabnani, and S. Arifin, "E-commerce website service quality and customer loyalty using WebQual 4.0 with importance performances analysis, and structural equation model: An empirical study in the shop," *Regist. J. Ilm. Teknol. Sist. Inf.*, vol. 7, no. 2, pp. 107–124, Jul. 2021.
- [5] F. Septa, A. Yudhana, A. Fadlil, A. Dahlan Yogyakarta, and P. Korespondensi, "Analisis Perbandingan Metode Regresi Linier Dan Importance Performance Analysis (Ipa) Terhadap Kepuasan Pengguna Pada Layanan E-Government Menggunakan Metode Webqual Modifikasi Comparison Analysis Of Line Regression Methods And Important Performance Analysis (Ipa) On User Satisfaction In E-Government Services Using Modification Webqual Method," vol. 7, no. 5, pp. 951–960, 2020.
- [6] M. Syahid Qadhafi, A. Pertiwi, and P. Korespondensi, "Analisis Kualitas Website Balai Besar Taman Nasional Gunung Gede Pangrango (Bbtnggp) Menggunakan Metode Webqual 4.0".
- [7] D. Yulianto and T. Ismail, "Analisis Website Program Kreativitas Mahasiswa (PKM Center) Universitas Ahmad Dahlan Menggunakan WebQual 4.0," *MATRIK J. Manajemen, Tek. Inform. dan Rekayasa Komput.*, vol. 20, no. 2, pp. 325–334, May 2021.
- [8] I. G. N. S. Wijaya, E. Triandini, E. T. G. Kabnani, and S. Arifin, "E-commerce website service quality and customer loyalty using WebQual 4.0 with importance performances analysis, and structural equation model: An empirical study in the shop," *Regist. J. Ilm. Teknol. Sist. Inf.*, vol. 7, no. 2, pp. 107–124, 2021.
- [9] F. Septa, A. Yudhana, and A. Fadlil, "Analisis Perbandingan Metode Regresi Linier Dan

Importance Performance Analysis (IPA) Terhadap Kepuasan Pengguna Pada Layanan E-Government Menggunakan Metode WebQual Modifikasi,” *J. Teknol. Inf. dan Ilmu Komput.*, vol. 7, no. 5, pp. 951–960, 2020.

- [10] L. Amelia and I. Pradesan, “Pengukuran Kualitas Layanan Website Terhadap Kepuasan Pengguna pada Universitas XYZ dengan Menggunakan Metode Webqual 4.0,” *J. Sist. dan Inform.*, vol. 14, no. 1, pp. 57–63, 2019.