Website Analysis on www.ibi-k57.ac.id using WebQual 4.0 and Importance Performance Analysis

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**ABSTRACT**

**Objective:** The purpose of this paper is to analysis Website Quality of IBIK 57 in Usability, Information, Service Interaction and User Satisfaction, combine with Importance Performance Analysis to decide what dimension should be improve to make a better Website.

**Methodology:** A questionnaire survey was administered to 90 responent in IBIK 57. SPSS as statistical tools were used to analyze the data and test the hypotheses that alliance performance is impacted. This study used Webqual 4.0 methodology to evaluate the website quality and see the importance of that quality using IPA (Importance Performance Analysis) to see how IBIK 57 maintain that user expectations.

**Results:** From four dimension that Webqual 4.0 provide for this research and total of 60 respondent as sample this research, authors found that all of dimension has significance result to satisfied users with specific Information on facilities, News and contents from the website.

**Implication:** Average respondent was satisfied with the Information, News and contents in the web both from the value of all respondents and each research variable. The existing results from website user can be used as feedback on evaluation and development of IBIK 57 website to be more accommodating to the wishes and in accordance with the expectations of website users.

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**Introduction**

Internet users in Indonesia are increasing rapidly every year, therefore the need for information is also very much needed, including information related to higher education or college, one of
which is IBIK 57. It is very important to know the quality of a university or college website. The purpose of this paper is to analysis Website Quality of IBIK 57 in Usability, Information, Service Interaction and User Satisfaction, combine with Importance Performance Analysis to decide what dimension should be improve to make a better website.

**Literature Review**

**WebQual**

WebQual is a method of measuring the quality of a website, developed by Stuart Barnes & Richard Vidgen. The latest version is WebQual 4.0 that uses three measurement categories with 23 of the questions. All three category are the usability, information and service interaction.

**Importance Performance Analysis (IPA)**

IPA has demonstrated its ability to produce a service manager with valuable information, including measurements of satisfaction and efficiency of the allocation of raw materials, is easy. IPA which considers the relationship between importance and performance. Target level of performance for specific product attributes must be proportionate to the importance of those attributes. IPA has been widely used in various fields, including: banking, dentistry, health care, and website.

**Gap Analysis**

This study using measurements the gap between the perceived service with expected service, between feedback of Website.com users in the present and what is expected based on the dimensions of WebQual. The gap is the difference by the users of the services right new and what is expected, this occurs when users expect higher or lower on the condition of the current website. Gap is calculated by calculating the average Performance or X with an average Importance or Y of any dimension WebQual.

**Previous Researchers**

Bayu Luhur Wicaksono, Adhi Susanto, dan Wing Wahyu Winarno (2012) “Evaluasi Kualitas Layanan Website Pusdiklat BPK RI Menggunakan Metode Webqual Modifikasian dan Importance Performance Analysis”. Strengths of this research is Using hypotheses, and present a complete picture (structure, flowchart, diagram). The weaknesses is there is a validity test, but less reliability test contained in the questionnaire study.

Miftah Nasution, Mudjahidin (2013) “Analisis Kualitas Layanan Website Kantor Pelayanan Perbendaharaan Negara (KPPN) Surabaya I dengan Metode Webqual”. Strengths of this research is SEM analysis and hypothesis. The weaknesses is IPA analysis can be more explained and completed.

Budi Setiawan Santoso, Muhammad Fauzi Anwar (2015) “Analisis Kualitas Website Menggunakan Metode Webqual dan Importance - Performance Analysis (IPA) pada Situs Kaskus”. Strengths of this research is have a complete analysis and the results of various IPA quadrants. The weaknesses is less indicator number 23 from WebQual Instrument that contain overall perception of the website.

Analysis (Case Study on AliExpress Site in Indonesia)”. Strengths of this research is Have a good literature and format. Easy to understand. The weaknesses is questionnaire represents only 10% of women and 90% of men, need more spreadout in order to better represent the overall perception of the users of the website.

**Research Methodology**

In this study the author uses descriptive quantitative method, the data generated in the form of numbers and without comparison with other variables. The data obtained are primary data, obtained from questionnaires, and secondary data through library research. The questionnaire uses a closed type questions that question has been provided by the variable WebQual so that respondents can simply choose the Likert scale 1 to 5. Scale 1 showed that respondents strongly disagree, 2 disagree, 3 is quite agree, 4 agree, up to a scale of 5 indicates that respondents strongly agree.

**Research Process**

In this research, first determine what questions will be used based WebQual variable, basically WebQual question amounted to 23 questions, then have to match the subject matter to 19 questions.

The question modified by remove question numbers 10 (Provides believable information) because Author believe that believable information must be accurate and join with question number 9 (Provide accurate and believable information). Question number 19 (Creates a sense of personalization) also deleted because it’s more compatibel for social media website where user can personalize whatever they want. In IBIK website user doesn’t need personalization like social media. Number 20 and 21 also deleted, namely: “I feel this website gives the impression of a community, and I feel the website makes it easy to communicate with the organization”. Because community website should be in different website from official site IBIK. After becoming 19 questions, the questionnaire prepared using google form, the online questionnaire which is then dispersed to various people, at first taken a sample of 30 questions and then tested for validity and reliability.

![Questionnaire Dimensions and Questions](image)

After being tested and the results are valid and reliable, the question is spread again with a total of 90 respondents, then tested the validity and reliability again. In filling out the questionnaire respondents tried to look of the website and answer the questions based on what user experienced and expected. Further performed IPA tests. At the beginning of each question get the average value of the maximal likert scale worth 5, of the total 90 respondents. Then the value of the
whole question is searched again averaged which later became a barrier in the X-axis (Performance) and Y-axis (Importance) in the Cartesian diagram. Then searched the difference between the performance and the importance to find the gap value. The gap can be seen from the difference of importance and performance, if the gap difference is more inconsistent with the expectations of users. Then at the Cartesian diagram, the average value of each question as the coordinates in the diagram.

**Reliability Test**
Table 2 explain the calculations with total N (respondents) as many as 90 with a value of Cronbach's Alpha 0.928 with a total N of items 38 (19 questions importance and 19 questions performance). With the help of SPSS software used menu functions Analyze, Scale, Reliability Analysis, Checklist Scale if Item Deleted. Questionnaire said to be reliable if the Cronbach alpha value is more than 0.6 and in this research the obtained value of the questionnaire is 0.928. So this research is highly reliable.

![Table 2. Case Processing Summary](image)

**Validity Test**
Validity value using the Pearson product moment correlation technique is a way to correlate between the scores of items with item total score (r count) compared with r table. With the number of respondents amounted to 90 people then we got n = 90, and on the tables r to n = 90 is 0.207. With SPSS software obtained r count of calculations table above with the help of Analyze menu, Correlate, and Bivariate and then produced a table containing the value of Pearson Correlation.

**Gap and Importance Performance Analysis (IPA) Test**

![Table 4. Average Number of Importance and Performance](image)
Starting from the dimensions usability, the sum is 8 (USA1 - USA8). Then dimension Information the sum is 6 (INF1 - INF6), and Service Interaction the sum is 5 (SRV1 - SRV5). Column of Importance and Performance the numbers obtained from the overall average value of the questionnaire respondents and then inserted one by one carefully into the table.

Average Number of All Dimension in table 5 is very important to proceed to the next stage of the make the Cartesian diagram. Quadrant border lines obtained from the average figures for the x-axis performance in the number 4.196. Later on in the y-axis using the average importance 4.383. Then, for each variable WebQual use Performance column to coordinates x axis and importance for y axis.

**Bivariate Correlation and T Test**

Due to the number of question variables that amounted to 19 questions, then in this test selected one with the lowest gap. The question will be test with gender, age, location, and internet use.

INF6 variable or question number 14 (presents the information in appropriate format) with the lowest gap value of -0.07 which means Website website is very in line with user expectations or there is no gap between the desired expectations of users and website performance results.

Based on Bivariate Correlation and T test, more internet usage per day make a strong correlation, often accessing the website and location more close to center of the city has a positive correlation with score that user give about good website format.
Result Analysis and Discussion
In this research based on gender, men amounted to 57 people or 63%, and women are 33 people or 37%. Age of the respondents in under 15 years, there are 9 people or 10% of the total respondents. At the age of 16-20 years there are 28 persons or 31%. At the age of 21-30 years there are 37 people or 41%. Then at the age of above 31 years, there are 16 persons or 18%. Daily location of respondents are most numerous in the city with a number of 52 people with a percentage of 58%. Then in the suburbs there are 24 persons or 27%. Last respondents by the number 14 or 15% in the villages. Internet use per day. Internet usage under 1 hour there are 12 persons or 13%. Internet usage in 2-5 hours there are 22 people or 24%. Then the most numerous in 5-8 hours at 41 persons or 46%. At the time the use of more than 9 hours of Internet use per day, there were 15 people or 17%.

Respondents visited IBIK websites, there are 18 people or 20% who do not have access to the website. This amount is quite large but very necessary because never have access to the website assessment questionnaire will be very representative of the user who does not understand, the website should look like in the future in order to understand the new user. Then there are 33 or 37% of people who had ever visited websites, although not often but respondents at least already know what kind of website. And there were 39 or 43% of people who have often visited IBIK website.

IPA Test Result

Cartesian diagram obtained by calculating the average of each question then becomes coordinates. From Cartesian diagram can be seen from any variables that need to be repaired or not. With IPA we can determine areas that needed to be prioritized in the development of websites from all sides by points WebQual questions, grouped into four quadrants, namely:

1. Quadrant 1: attributes have top priority for repair, with high Importance but low Performance. The attribute is number: 9, 10, 11, 15,17 or INF1, INF2, INF3, SRV1, SRV3
2. Quadrant 2: attributes that should be maintained in value to the Importance and Performance are equally high. The attribute is number: 4, 5, 6, 12, 19 or USA4, USA5, USA6, INF4, SRV5
3. Quadrant 3: attribute has a low priority to the level of Importance and Performance are equally low. The attribute is number: 2, 7, 8, 16 or USA2, USA7, USA8, SRV2
4. Quadrant 4: attributes considered redundant because the Importance level is low, while the high Performance. The attribute is number: 1, 3, 13, 14, 18 or USA1, USA3, INF5, INF6, SRV4
INF1,2,3 are part of the dimension information should always be updated regularly, because its role is very important in website and is the main data from a website. It would require special attention such special care of the employees who update this data to be accurate, believable and updated. In this study INF1 has the largest gap with a value of 0.48 so this attribute is the first attribute that should be repaired immediately to improve user satisfaction.

SRV3 or "My personal information feels secure" is the second largest gap in this study indicates that the user still feel less safe for entered the data. Actually, the Website itself already use data encryption for passwords and user data can not be seen by other users. However the development of future security systems become more secure is needed.

SRV1 or "Has a good reputation" occupies a major part also in quadrant 1. For new users IBIK Website may not have a good reputation and name is rarely heard, but in around the area campus IBIK is enough to have a good reputation. To have a good reputation in website required attention and promotion in various media and show good Information and service, if it all had been reached then slowly will increase the IBIK reputation. To improve the reputation of Website also be able to advertise through various online advertising features like google / facebook ads which have a direct impact to the user and more targeted in its ads. All attributes that are in quadrant 1 This is assessed by the user has a low performance but high importance and foremost for improved quality.

Continued in quadrant 2, here there are 5 attributes considered good enough with high importance and high performance. Users consider these attributes are important and already served well by Website. Although there is a gap that signifies according to the user could still be improved in order to meet user importance. USA4 or "I find the site easy to use" had a gap of 0.21 indicating means Website website can be used easily by the user. USA5 or "The site has an attractive appearance" shows look attractive or interesting enough for website with a small enough gap is 0.06. USA6 or "The design is Appropriate to the type of site" shows the look of the website that has the appropriate format or generally used for collage site. These three attributes are part of the
usability interface that can be viewed directly by the user while accessing the Website. The interface is a thing need to change and keep abreast of the times. So that the necessary to development interfaces over a period of time once, the display interface is required also the style that is popular in the interface so that it will increase the value of the website Website.

Here there are four attributes with low importance and low performance in quadrant 3. Users consider these attributes are less important and less served well by the Website. USA2 or "My interaction with the site is clear and understandable" has a gap of 0.19 which means that the website can be developed in terms of the clarity of the use of words or process contained in this website, so users can more easily use without ambiguity. USA7 or "The site conveys a sense of competency" has a gap of 0.32 which indicates there is a gap large enough. There so many of website that is making the competition between websites is becoming increasingly difficult, Website suggested has own advantages in order to increase the user and make Website survive tough competition and be successful. USA8 or "The site creates a positive experience for me".

USA8 or "The site creates a positive experience for me" has the smallest gap is 0.01. Indicates performance is already very close to the importance and Website website is sufficient to provide a positive impression when users visit the website. The last in quadrant 3 is SRV2 or "It feels safe to complete the transaction" with a 0.35 gap. Indicates that the security in completing a transaction on the website can be improved in the future. With the addition of features such as sms gateway, application or email indicating that the transaction is successful to secure and guarantee secure transactions with antivirus support.

USA1 or "I find the site easy to learn to operate" had a 0.14 gap indicating that the website is easy to use but still has a gap with Importance so that still can be improved in order to be easier though not a priority for website development. USA3 or “I find the site easy to navigate” had 0.06 gap which signifies that the website can easily be used for navigation, such as switching between menus or transactions process.

INF5 or “Provides information at the right level of detail” had -0.02 gap, minus sign here means this attribute has exceeded the desire or user importance, and has shown that Website is enough to show the level of detail that is appropriate as the appearance of the information page, news or information in the banner. INF6 or “Presents the information in appropriate format” also had minus gap that is -0.07. Indicating that the information presented has exceeded what the user needs, so it's not currently a priority in website development. SRV4 or “I feel confident that goods/services will be delivered as promised” had 0.09 gap which indicates that the user still has the assumption that the service can be better, but it's been considered sufficient and not become a priority for development because located in quadrant 4.

**Conclusion Remarks**

This research successfully analyze quality of IBIK website using variable WebQual and IPA, there are differences that show the gap between the two perspectives between the level of performance assessment (performance) with the actual quality perceived by users and the level of interest (importance). What should be prioritized for repair is accurate and believable information, timely information, relevant information, Has a good reputation, and personal information feels secure. The website require periodic updating information, accurate, relevant, and reliable, so as to enhance the reputation of the website as well. Then increase the security of the website that the user feels safe in complete transactions on the website.

**References**
