Analysis of Quality from Users Perspective for Develop Website

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Abstract. Quality of website service becomes part of branding. Through the evaluation can be found the root of the problem and then find a solution. In this research, 92.3 MQ FM Jogja radio website was evaluated for website development. The method used in this study is a WebQual Improvement, taken from previous researchers then variables adjusted to the type of website. Through focus group decision with radio managers and radio website developers, stated that the results of the study are in accordance with the conditions that occur. Where complementary relationship and usability variables affect the interest of users in accessing the website. From the results of questionnaires data distributed to loyal radio listeners and the general public, drawn into the Importance Performance Analysis (IPA) diagram, with the aim of obtaining priority services that must be addressed immediately. In quadrant I shows 2 problems, ie on hope of off-air and download pages, and radio program list page. User expectations are constrained to be realized because the website system used is not supported to add these features.

1. Introduction

Information becomes a daily necessity for the society that is currently present in various media both digital visual, audio, and print media. Information in the form of audio still survive and continues to grow until now, radio is an electronic device that becomes broadcast media through a certain frequency. Radio evolves like a more minimalist shape change and rechargeable batteries, besides the USB support feature that works just like an audio player with Mp3 extension. In addition, to reach radio frequencies, now can be found through smartphones and live streaming on radio websites.

Service from the website is a necessity for the user, so the quality becomes the usability parameter of a website. Website evaluation is necessary to maintain the quality of website from time to time. There are several methods to evaluate the quality of the website, but the variables of each method must be adjusted to the type of website being evaluated. In previous research conducted website analysis using WebQual for the preparation of instruments to be distributed to respondents and data obtained from respondents will be processed using Quality Function Deployment [1]. Methods to understand the effectiveness of AliexPress website localization
across the country, ie using WebQual and IPA methods to analyze user perceptions and expectations [2]. The quality evaluation of the WebQual model presents the measurement process of twelve constructs, ie information that fits the needs, customized information, on-line completeness, relative advantages, easy to understand, intuitive operation, trust, response time, visual appeal, innovation, power consistent emotional appeal and imagery [3].

In this study the radio website evaluation was conducted using WebQual 4.0 method combined with WebQual 4.0 Improvement and priority analyzes using IPA. Where the variables used are adjusted to the current condition of the website. Object used in this research is Radio 92.3 MQ FM Jogja website.

2. Related Work

In research to know the influence of WebQual free variable that is usefulness, quality of information and quality of service interaction to user satisfaction associated with website quality. The results showed that the variable interaction of usability and service have a positive and significant impact on user satisfaction. However, the variable of information quality has no significant effect on user satisfaction. Coefficient of determination shows 57.5% contribution of three independent variables can explain the variation of user satisfaction. This means that there are 42.5% more variables or factors outside of this research model including psychological factors [4]. While in research evaluating website of e-government of Yogyakarta city government using WebQual modification become E-GovQual consist of six variables, ie ease of use, trust, functionality of the interaction environment, reliability, contents and appearance of information, and citizen support. The research aimed to get feedback on the success of e-Government implementation to improve user satisfaction in accordance with the rules in the use of government website [5].

While in research about analyzing citizen Satisfaction is an important and decisive factor for the continued use of e-Government services because it can substantially impact the failure or success of e-Government projects. The main obstacle of e-government planners and practitioners in Pakistan is to know the determinants of the public satisfaction. After a review of the relevant literature, researchers colleagues formulated seven hypotheses and distinguished seven different determinants of trust, accessibility, awareness of e-services, electronic service quality, computer anxiety, customer expectations and security or privacy [6].

In a research at a Chinese hotel to find out the influence of the quality of the hotel website and eTrust against online ordering intentions using WebQual approach with variables usability, entertainment, ease to use, and complementary relationship. The results showed that entertainment and complementary relationship variables positively influence to ask customers to order online [7]. While in the research to know the interest of customers to online banking services in Jakarta, using indicators from WebQual and TAM. The results of the research indicate that ease of use, trust, anxiety computing and service quality variables influence the willingness of customers in using electronic banking [8].

In a research on organic food sales website in Malaysia, conducted quality testing website using WebQual 4.0. The results show that the quality of website sites have an indirect impact in influencing the intention of customers to buy through the website [9]. While in research conducted on e-learning using three variables of WebQual method that is, usability, quality of
information and quality of interaction. The study aims to determine the quality of the website, and it turns out the variable of aging has a positive effect on user satisfaction [10]. The research conducted using WebQual approach with variable interactivity, online completeness, easy of use, entertainment and trust in ecommerce website in Indonesia. The results showed that the quality of the website affect the quality of information in a stimulant [11].

3. Methodology

The first version of WebQual was developed as part of the results of the workshops organized by involving the students who were asked to consider the quality of the school website. The WebQual instrument is filtered through an iterative repair process using a trial questionnaire prior to deploying for a larger population. Twenty-four questions within the WebQual instrument are tested with applications within the scope of business school websites in the UK. Analysis of collected data encourages deletion of one question item. Based on reliability analysis, the remaining 23 questions are then grouped into four main dimensions, namely ease of use, experience, information, communication and integration. The qualities identified in WebQual 1.0 form the starting point for assessing the quality of information from a website in WebQual 2.0. But in the WebQual application, on B2C (Business to Consumer) websites it is clear that quality interaction perspectives are not well represented in WebQual 1.0. Related to the quality of service, especially SERVQUAL, is used to improve the quality aspects of information from WebQual with the quality of interaction. Service quality is generally defined in the best way that the service is delivered whether it is in accordance with customer expectations [12].

WebQual 2.0 development requires several significant changes to the WebQual 1.0 instrument. In order to extend the model for interaction quality, Barnes and Vidgen (2001) analyzed the WebQual SERVQUAL and made detailed comparisons between SERVQUAL and WebQual 1.0. This review succeeded in identifying redundant questions and then overlapping areas were removed, the result most of the key questions in the SERVQUAL did not match WebQual 2.0, the number of instruments with 24 questions retained (Barnes and Vidgen, 2001). WebQual 1.0 may be powerful in terms of information quality, but less robust in terms of service interaction. Likewise for WebQual 2.0 that emphasizes the quality of interaction eliminates some quality information from WebQual 1.0. Both versions contain various qualities associated with the website as software artifacts. In a review conducted by Barnes and Vidgen (2001) found that all qualities can be categorized into three different areas, ie website quality, information quality, and quality of service interaction. The new version of WebQual 3.0 has been tested in the online auction domain [13].

In this research will be an improvement WebQual method on the questions and take the variable from the discussion of hypothesis development of WebQual variables. Variables that will be further developed, ie the variable Usability and Service Interaction Quality [13].

It aims to explore the root of the problem adapted to the object under study. Differences in the development of variables based on needs as shown in Table 1, ie the development of WebQual 4.0 written in the journal in 2002 by Barnes and Vidgen more specifically to evaluate e-commerce website (Barnes, 2002) and from the journal in 2017 which uses hypothesis WebQual variables performed by Loiacono, Watson, & Goodhue, 2000; Loiacono et al., 2007; Rodrigues, 2012 to evaluate the information website used as a digital marketing medium [3]. In
this research will be merging of the second variable hypothesis in accordance with the needs of evaluation based on the type of website. Variables to be used include usability, information quality, entertainment, and complementary relationship.

**Table 1. WebQual variables indicators**

| WebQual (Barnes & Vidgen, 2002) | WebQual (Rezende, 2017) |
|----------------------------------|--------------------------|
| **Usability**                    | **Usefullnes**           |
| Easy to operate site             | Informational fit to task - useful information for users to complete tasks and improve performance. |
| Interaction with the site is easy to understand | Tailored Information - communication tailored to the needs of the userinformation. |
| Easily find navigation           | Trust - communication between parties safe and user privacy guaranteed. |
| Easy to use site                 | Response Time - accepts location response from request or interaction. |
| The site has an attractive appearance | Easy of Use - easy to understand to run the next step. |
| Design according to the type of site | Intuitive operations - easy for users to operate and navigate pages of sites |
| The site is competent            | **Entertainment**        |
| Site creates a positive experience for users | Visual appeal – design aesthetic |
| **Information Quality**          |                          |
| Provide accurate information     | Emotional appeal - users are encouraged to continue to interact so as to create new experiences |
| Provide reliable information     | Innovativeness - creativity and authenticity of website design |
| Provide timely information       | **Complementary Relationship** |
| Provide relevant information     | Consistent image - the company image on the site is consistent with the projected image in other media |
| Provides information that is easy to understand | Online completeness - feature completeness |
| Provide information according to the level | Realative advantage - relationships with companies through good sites. |
| Provide information according to the format |                          |
| **Service Interaction Quality**  |                          |
| Has a good reputation            |                          |
| Feel secure to complete the transaction |                          |
| Personal information is secure   |                          |
| Express the feelings of personnel |                          |
| Create an atmosphere as in the community |                          |
| Easy to communicate with the company |                          |
| Believe that the goods or services will be delivered according to the agreement |                          |
4. Discussion

In determining the sample number of respondents, in this study is not determined from how many populations. This is due to unlimited or unrecorded number of radio listeners MQ 92.3 FM. Therefore, the questionnaire respondents are divided into 2 levels that each level has certain criteria, among others:

1. Active radio listener MQ 92.3 FM, as evidenced by its membership in the WhatsApp group
2. The general public in the Amikom University neighborhood area of Yogyakarta

The questionnaire was distributed from December 4, 2017 to March 16, 2018 to respondents via email. Active radio listeners MQ 92.3 FM there are 157 people, and who responded to the questionnaire in this study as many as 45 people. While the general public in the area of Amikom University who were randomly asked to fill out this questionnaire netted as many as 34 people. So the total number of respondents to the questionnaire of this study were 79 people.

From the results of collecting raw data of the questionnaire, the next step is to measure the level of suitability to find out how big customers / consumers feel satisfied with the performance of the company, and how the service providers understand what customers want the services they provide. The degree of conformity is the result of comparison of the perception score with the expected score. This level of conformity will determine the order of priority services provided by the company from a sequence that fits perfectly with the non-compliance. The level of conformity <100% means that the quality of service provided is less / does not meet what is considered important by the customer. Service has not been satisfactory. In the level of compliance <100% can be explained as follows:

- 0 - 32% Very Not Satisfied
- 33 - 65% Not Satisfied
- 66 - 99% Dissatisfied

The formula used to calculate the level of conformity:

$$T_{ki} = \frac{\Sigma X_i}{\Sigma Y_i} \times 100\%$$

Where:
- $T_{ki}$ = Degree of respondent's suitability
- $\Sigma X_i$ = Performance appraisal score
- $\Sigma Y_i$ = Scores of respondents' expectations

In this study there are 16 indicators of 4 variables. Below in table 2, the description and the results of questionnaires on each indicator of each statement.
| Indikator                          | \( \bar{x} \) | \( \bar{r} \) | \( \% \bar{r}_k \) |
|----------------------------------|---------------|---------------|-------------------|
| **Usability**                    |               |               |                   |
| U1 Easy to operate Website       | 3.27          | 4.00          | 81.8%             |
| U2 The layout of website display and navigation is easy to understand | 3.84          | 3.92          | 98.0%             |
| U3 Website design in accordance with the type of site       | 3.44          | 3.85          | 89.4%             |
| U4 Live stream feature is available on every page       | 3.99          | 4.34          | 91.9%             |
| U5 Website creates a positive experience       | 4.16          | 4.23          | 98.3%             |
| **Average**                      | 3.74          | 4.07          | **91.9%**         |
| **Entertainment**                |               |               |                   |
| E1 The color of the website design is similar to the concept of radio | 3.90          | 4.22          | 92.4%             |
| E2 Feeling compelled to keep interacting to discover new experiences | 3.27          | 4.00          | 81.8%             |
| E3 There is an off-air listening service and downloads | 3.05          | 4.32          | 70.6%             |
| E4 The original design of the radio / does not exactly match the other radio websites | 3.84          | 3.92          | 98.0%             |
| **Average**                      | 3.52          | 4.12          | **85.7%**         |
| **Cimplementary Relationship**   |               |               |                   |
| C1 Corporate image on the site is consistent with images projected in other media | 3.44          | 3.85          | 89.4%             |
| C2 Complete features, relationship with social media accounts | 3.99          | 4.34          | 32.3%             |
| C3 There is a valid contact and radio address       | 4.16          | 4.23          | 98.3%             |
| **Average**                      | 3.86          | 4.14          | **93.2%**         |
| **Information Quality**          |               |               |                   |
| I1 Provide accurate information / news / articles       | 3.67          | 4.05          | 90.6%             |
| I2 Provide information / news / articles on time / up to date | 3.23          | 4.08          | 79.2%             |
| I3 Provide relevant, overall information       | 3.49          | 4.04          | 86.4%             |
| I4 Provides easy-to-understand program information       | 3.30          | 4.27          | 77.3%             |
| **Average**                      | 3.42          | 4.11          | **83.4%**         |
| **Total Average**                | **3.64**      | **4.11**      | **88.5%**         |

The results showed that the variables Complementary Relationship and usability significantly influence the willingness of users in accessing the website. From the calculation result in table 2, the total average value is included in the IPA diagram to find out the achievement or priority for the improvement.
4.1 Importance Performance Analysis

The data obtained in Table 2 are all the importance and performance figures of each indicator included in SPSS View data, then select Graphs menu - Legacy Dialog - Scatter / Dot - Simple Scatter and select define. In column Y Axis input Importance parameter, and in column X Axis input Performance parameter, and in Casey Label column input name variable, then select OK. Then the point or indicator appears on the screen IPA diagram. To define the centerline or mean of the double-click diagram select the option on the menu, select X Axis Reference Line, the Properties screen appears, on the Properties screen of the Set to column and select Mean in the Set to and Apply fields. Then automatically the mean line of X Axis appears in the IPA diagram. So it is with Y Axis in the same way. Thus Quadrant I, II, III, and IV are formed with the corresponding arrangement of the indicator value. Based on Figure 1, this is a description each quadrant.

![Diagram IPA](image)

**Figure 1. Diagram IPA**

1. Indicators that enter into quadrant I are E3 and I4. Indicators entering this quadrant are considered to have a high degree of importance, but their performance is perceived to be relatively low by website users, making it a priority for improvement.
2. Indicators that enter into quadrant II are U4, C2, E1, U5, C3A. Indicators entering this quadrant is an achievement that must be maintained because, have a relatively high importance with a relatively high level of satisfaction as well.
3. Indicators entering into quadrant III are E2, U1, I3, U3, C1. Indicators entering this quadrant have a relatively low level of importance and the reality of performance is not too special with the level of user satisfaction. As well as the incoming indicators of this quadrant provide little impact on the perceived benefits of users, but should be kept so as not to shift in quadrant I.
4. Indicators entering the IV quadrant are I1, U2, E4. Indicators entering this quadrant have a relatively low importance level with a relatively high level of satisfaction.

4.2 Focus Group Decision

Focus group decision is done with the radio website developer section to discuss the results of the research for further action. In this session found the problem of the emergence of priority variables that must be fixed.
In the E3 statement that states that users expect the download and off-air service on the website. With the current web system that is CodeIgniter, it is quite support for added download and off-air feature, with the provision should enlarge space hosting. In addition there are other solutions that can be used for free and free that is using social media YouTube. Where all the videos will be stored on the YouTube server so the data becomes less privacy, but has the advantage in promoting radio. As for the download service is directed at links that have been converted from YouTube to various audio and video extensions. There are several plugins or online converters from YouTube to .Mp3 that can be used like Tampermonkey.net, youtubeinmp3s.com, ummy videodownloader. Therefore the user interface in figure 2 only becomes catalog.

![Figure 2. User interface download and off-air](image)

In the I4 statement that states that the user hopes the program list view is easy to understand, which means that during the event there is an event title update on the live streaming feature. The solution recommended by the researchers that the right of access to the live streamer feature for the broadcaster to input the name of the broadcaster, the event title every time the broadcast will take place.

5. Conclusion

In this research improvement method WebQual used can indicate the problem of service website based on user point of view. Where with the average level of 88.5% compliance, 93.2% complementary relationship effect on usability of 91.9%. Level percentage of the influence means significantly affect the interest of users in accessing the website. Improvement method in this research need to be tested to similar website with radio website to prove the accuracy of variable used as indicator.
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