Analysis of Factors Affecting Quality of corona.jatengprov.go.id Website Towards User Satisfaction using Webqual 4.0 Method

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Abstract. This research focuses on how to measure the quality of a website using the Webqual 4.0 method, what are the factors that influence user satisfaction. The PLS-SEM technique was used to verify questionnaire data from a sample of 155 respondents. The result shows that the quality of service interaction has a significant (positive) effect of 54.2% compared to the aspect of information quality and usability quality that has no significant effect. These results indicate that the corona.jatengprov.go.id site users expect quality of service interaction as a measure of satisfaction from the quality of a website. Users are more likely not to see deficiencies in the aspect of information quality and usability quality according to the assessment of satisfaction given. Therefore, the corona.jatengprov.go.id website manager needs to focus on the quality of service interaction aspects of website as a priority in improving grade.

1. Introduction

Corona disease caused by the coronavirus (covid19) which was discovered at the end of 2019[1]. Since the beginning of March 2020, the World Health Organization (WHO) has established a pandemic status in which the corona virus has spread to various parts of the world, including in Indonesia[2]. Since, the government took steps in accelerating treatment to overcome the pandemic. Some of them is providing information and education about covid19, symptoms, transmission, risks and prevention.

Website is a digital media channel information through the internet. The success of the world wide web is followed by the opening of most of the world’s information and can be accessed directly[3]. Dissemination of information through the web is a fast and easy way to be accessed by anyone and anywhere. Information is spread in cyberspace and social media scrolls quickly, it is difficult to block which information is correct whereas is incorrect[4]. During the pandemic period, a lot of hoax information circulated in the community. So that the government as the authority has a challenge both in providing a credible channel of information and monitoring covid19[5]. Corona.jatengprov.prov.go.id website is a site that is used as an information center about Covid-19 in Central Java Province, Indonesia[6]. The site is equipped with data monitoring, emergency service and frequently asked questions.

Public needs for information on the quality of a website determines the level of acceptance and use of the web site[7][8]. A quality website is measured by a high level of user satisfaction.
Satisfaction is defined as a feeling of pleasure or disappointment from the results of comparing between products received with expectations in meeting needs[9]. If the product received exceeds expectations, the consumer is satisfied. Conversely, if the product does not meet expectations, consumers are not satisfied. Likewise with website user satisfaction in the context of information technology products, users will feel satisfied if the products and services received exceed expectations. Conversely, dissatisfied users will look for other products as alternatives.

User satisfaction is a condition where user acceptance of the product is in accordance with or exceeds what is expected [9]. There are several methods to measure the quality of a website, one of them is the Webqual 4.0 method[10].

Prior research on e-learning websites was evaluated using the webqual method where satisfaction was assessed with the importance-performance analysis method resulting score from the average rating, in other case using likert scale to get highest influence indicator[11][12]. Similar studies of the BNPB website are calculated by multiple linear regression resulting that the three dimensions significantly influence user satisfaction[13]. Yet the use of this method to measure the quality of the web related to pandemics has never been done before. Hence this study will utilize webqual method in case of measuring the quality of website and factors that affect the quality of the website.

This research aims to determine and measure what are the factors that influence the quality of the website on the level of user satisfaction on the corona.jatengprov.go.id website. The research was conducted with a quantitative approach, where data was obtained through questionnaires distributed to respondents. Data obtained were analyzed for validity and reliability testing as measurements of the outer model. The analysis was carried out with the PLS-SEM technique, which can be applied to find causative relationship[14]. Then measure the inner models between variables as hypothesis testing. It was produced the significance of the relationship between latent variables and how strong is the effect these variables have on user satisfaction.

2. Method
The quantitative research methodology used in this study begins with the study of literature related to existing problems.

2.1. Webqual 4.0
WebQual method is a method used to measure the level of quality of the web site to the user’s satisfaction by measuring the dimensions of information quality, usability quality, and service interaction quality[15]. By using these method, initial variables and hypotheses are determined. The research model is proposed with three independent variables and one dependent variable. Independent variables: usability(KKP), information quality(KI), and service interaction quality(KIL). User satisfaction(KP) is the dependent variable. The hypotheses of this research can be determined as these following:
H1: There is a significant (positive) effect between usability quality and user satisfaction on the corona.jatengprov.go.id website.
H2: There is a significant (positive) effect between information quality and user satisfaction on the corona.jatengprov.go.id website.
H3: There is a significant (positive) effect between service interaction quality and user satisfaction on the corona.jatengprov.go.id website.

2.2. Research Instrument
The next step is the preparation of a research instrument in the form of a questionnaire to obtain relevant information in the most reliable and valid way[16]. WebQual 4.0 questionnaire instrument consists of 23 questions[15]. Questionnaires according to Tabel 1 were compiled and distributed to obtain responses from the public regarding the object of research.
Table 1. List of Questionnaire.

| Dimension   | Code | Questionnaire                                                                 |
|-------------|------|-------------------------------------------------------------------------------|
| Information | KI1  | 1. Website https://corona.jatengprov.go.id/ provides accurate information.     |
| Quality     | KI2  | 2. Website https://corona.jatengprov.go.id/ provides reliable information.      |
|             | KI3  | 3. Information on https://corona.jatengprov.go.id/ always provides the latest information. |
|             | KI4  | 4. Information was provided according to user needs.                           |
|             | KI5  | 5. Website https://corona.jatengprov.go.id/ provides information that is easily understood. |
|             | KI6  | 6. Website https://corona.jatengprov.go.id/ provides detailed information.      |
|             | KI7  | 7. Website https://corona.jatengprov.go.id/ presents information in an appropriate format. |
| Usability   | KKP1 | 1. Website https://corona.jatengprov.go.id/ can be easily learned how to use it. |
|             | KKP2 | 2. I can interact with the website https://corona.jatengprov.go.id/ clearly and easily understand. |
|             | KKP3 | 3. Website https://corona.jatengprov.go.id/ has navigation / easy understood directions. |
|             | KKP4 | 4. I found a website https://corona.jatengprov.go.id/ easy to use.              |
|             | KKP5 | 5. Website https://corona.jatengprov.go.id/ has an attractive design.          |
|             | KKP6 | 6. Website design https://corona.jatengprov.go.id/ already well.               |
|             | KKP7 | 7. Website https://corona.jatengprov.go.id/ submit information with full competence. |
|             | KKP8 | 8. Website https://corona.jatengprov.go.id/ created a positive experience for me. |
| Service     | KIL1 | 1. Website https://corona.jatengprov.go.id/ has a good reputation.             |
| Interaction | KIL2 | 2. I do not worry when searching website https://corona.jatengprov.go.id/        |
| Quality     | KIL3 | 3. I feel safe when there is personal information I send / share on https://corona.jatengprov.go.id/. |
|             | KIL4 | 4. Website https://corona.jatengprov.go.id/ provides customization (for example: theme, appearance) according to my personal needs and desires. |
|             | KIL5 | 5. Website https://corona.jatengprov.go.id/ has a community atmosphere of togetherness. |
|             | KIL6 | 6. Website https://corona.jatengprov.go.id/ provides a feedback communication channel. |
|             | KIL7 | 7. I believe the website https://corona.jatengprov.go.id/ the services were provided as promised. |
| Overall     | KP   | 8. Overall assessment of website https://corona.jatengprov.go.id/.              |

2.3. Respondent Demographic

Based on the respondents’ data collection as in the Table 2 during the period of May 14-28, 2020, it is known that participated by women 51%, in terms of age 31-40 as much as 41%. The most respondents live in Central Java 75% according to the address of the site owner, the Central Java Provincial Government. Respondent’s education level as much as 60% are bachelor’s degree. Based on average accessing the site 2-5 times per week as much as 47%.

Table 2. Demographic Distribution of Questionnaires.

| Category       | Variable | Total | %    | Category       | Variable | Total | %    |
|----------------|----------|-------|------|----------------|----------|-------|------|
| Gender         | Male     | 76    | 49   | Age            | < 20 years | 4     | 3    |
|                | Female   | 79    | 51   | 20–33 years    | 33        | 21    |
| Education      | High School | 14  | 9    | 31–40 years    | 64        | 41    |
|                | Diploma  | 8     | 5    | > 40 years     | 54        | 35    |
|                | Bachelor’s degree | 93 | 60  | Profession     | Private   | 19    | 12   |
|                | Master’s degree | 39 | 25  | Public Sector  | 94        | 61    |
|                | Doctoral degree | 1   | 1    | Student        | 19        | 12    |
| Origin         | Central Java | 115 | 75  | Frequency of access | 0–1 times | 65    | 42   |
|                | Jakarta Capital | 14 | 9    | 2–5 times      | 73        | 47    |
|                | Other Java Island | 21 | 13  | > 10 times     | 9         | 6     |

2.4. Partial Least Square-Structural Equal Modelling (PLS-SEM) Technique Analysis

PLS-SEM is an SEM technique based on an iterative approach that maximizes the explained variance of endogenous constructs (Fornell and Bookstein, 1982). PLS-SEM used to examine predictive relationship among construct by seeing there is a relationship or influence on those constructs[14]. The test could be done without have strong theory, disregarding some assumption
(non-parametric) and the accuracy of prediction model obtained from determinant coefficient value (R-Square)[17][18]. Data analysis stage conducted by the SmartPLS3 application software[19]. The software run PLS Algorithm and Bootstrapping mode to generates result values. The stage performed with several measurement, such as convergent validity, discriminant validity, and reliability validity for outer model measurement. Whereas effect size and predictive relevance used for structural model evaluation (inner model) measurement. Furthermore, the analysis results become the final stage of this study so that conclusions can be drawn from the research.

3. Result and Discussion

According to the conceptual model drawn on Figure 1, the path diagram is modeled by inner and outer models where the relationship between latent variables is the inner model, while the relationship between each variable and its indicators is the outer model[20].

3.1. Evaluation of Measurement Model (outer model)

In evaluating the measurement model carried out by 4 tests, namely: Discriminant validity - cross loading, Average Variance Extracted (AVE), Composite Reliability, and Cronbach’s Alpha.

3.1.1. Discriminant Validity – cross loading. This tests examine the value of the cross loading of each question item against the construct value of other variables. It will be valid if the value of outside loading is the biggest among the other value construct variables. As the results in Table 3, the other cross loading values already have adequate values which each item has a greater value when compared to the other construct loading values. Except for KIL3 item are not used in subsequent measurements because it doesn’t fulfill the requirement.

Table 3. Measurement of Average Variance Extracted (AVE), Composite Reliability and Cronbach’s Alpha.

|                        | Cronbach’s Alpha | Composite Reliability | AVE   |
|------------------------|------------------|-----------------------|-------|
| User Satisfaction      | 1.000            | 1.000                 | 1.000 |
| Usability Quality      | 0.929            | 0.941                 | 0.668 |
| Information Quality    | 0.911            | 0.929                 | 0.653 |
| Service Interaction Quality | 0.884       | 0.912                 | 0.634 |
3.1.2. Average Variance Extracted (AVE). The test results of AVE values listed in Table 3 produce AVE values of 1.000 for the User Satisfaction variable, at 0.668 for Usability, 0.653 for Information Quality, and 0.634 for Service Interaction quality. Resulting in a value above 0.500, indicate that the question items on the questionnaire are considered valid.

3.1.3. Reliability Test. The examination is carried out using Cronbach’s Alpha technique. As a practical rule, Cronbach’s Alpha values above 0.7 (\( \alpha \geq 0.7 \)) are sufficient for research. Reliability test is also measured through testing composite reliability value that exceeds 0.708, the questionnaire as a research instrument is considered reliable. From the test results in Table 3 shows the value of composite reliability on each variable is above 0.708. Likewise with the Cronbach’s Alpha value on each variable has also produced values above 0.7. With these results, the questionnaire is considered reliable which means that all the questions in the questionnaire are reliable and appropriate as an instrument in this research.

3.2. Structural Model Evaluation (inner model)

3.2.1. Path Coefficient. The path coefficient is used to determine the significance of the influence between latent variables. With a significance (alpha) of 0.05 at sample size of 155, the t table is 1.975. The path coefficient is considered significant if the T Statistics value > 1.975 or P values < 0.05. Based on Table 4, the hypothesis (H1) and (H2) rejected, while hypothesis (H3) are accepted.

| Path     | Original Sample (O) | Hypothesis | T Statistics | P Values | Decision                      |
|----------|---------------------|------------|--------------|----------|-------------------------------|
| KKP -> KP| 0.197               | (H1)       | 1.543        | 0.123    | positive & insignificant      |
| KI -> KP | 0.075               | (H2)       | 0.690        | 0.490    | positive & insignificant      |
| KIL -> KP| 0.542               | (H3)       | 5.077        | 0.000    | positive & significant        |

The original sample measurements as in Table 4, the variable with the greatest degree of influence on user satisfaction comes from the quality of service interactions that is equal to 0.542 or 54.2%. While the influence of information quality variables on the level of user satisfaction is considered small, that is 0.197 or 19.7%. Likewise, the amount of the effect of the information quality variable on user satisfaction is almost non-existent, amounting to 0.075 or 7.5%.

3.2.2. R-Square. R-Square test is a way to measure the level of Goodness of Fit (GOF) of a structural model that rates how much influence the particular independent latent variable has against the dependent latent variable. The R-square generated values of 0.599. This explains that together with the variable quality of usability, quality of information, and quality of service interaction effect of 0.599 on user satisfaction. The rest is influenced by other factors not measured in this research model. In terms of model accuracy, the value of 0.599 indicates that the predictive accuracy of the model of the relationship is classified as moderate.

4. Conclusion
Overall, the level of user satisfaction is met, both in terms of information quality, usage and service interaction quality. The results of the study concluded that: 1) There is no significant effect between the usability quality on the level of user satisfaction on corona.jatengprov.go.id site, with a large effect of 0.197. 2) There is no significant effect between the quality of information on the level of user satisfaction on corona.jatengprov.go.id site, with a magnitude of
influence of 0.075. 3) There is a significant influence between the quality of service interaction on the level of user satisfaction on the corona.jatengprov.go.id site, with an influence of 0.542. 4) Users prioritize the quality of service interactions as a measure of satisfaction from the quality of a website. Users are more likely not to see deficiencies in the aspect of information quality and usability quality according to the assessment of satisfaction given. Therefore, the manager website needs to focus on the quality of service interaction aspects of the corona.jatengprov.go.id website as a priority in improving the quality of a website.

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