Analysis of Website Information Quality Analysis of the Effect of Website Quality on User Satisfaction of Travel E-Commerce in Indonesia

Abeatrice[1], Henny Widowati Farida[2]

[1, 2]Information Systems Management, Postgraduate Program, University of Gunadarma
Jl. Margonda Raya No. 100, Depok 16424, East Java
Email addresses: [1]abeatrice.ug@gmail.com, [2]widowati@staff.gunadarma.ac.id

Abstract— *The use of the internet in the business currently changes from an electronic tool for exchanging information into a tool for business strategy application, one of which is e-commerce business. This study aims to analyze the value quality in every dimension from Webqual toward the service satisfaction of website of travel e-commerce Traveloka and Tiket.com and to know the level of user satisfaction of e-commerce website Traveloka and Tiket.com toward usability, information quality, and interaction quality. This study employed a quantitative approach with Webqual 4.0 method. The data were collected by spreading out online questionnaires to the users and the visitors of Traveloka and Tiket.com website. The data obtained is then processed using multiple linear regression analysis technique. The result shows that the usability.*

Keywords—*Information Quality, Webqual 4.0, Usability.*

I. INTRODUCTION

The development of internet technology is currently aided by advances in technology, computers, and telecommunications. Businesses can now get information without difficulty thanks to the Internet. The internet's role in business has evolved from that of a tool for transferring information electronically to that of a tool for implementing corporate plans. The e-commerce business is one of them. According to McLeod (2008), e-commerce is the use of computer networks and communication networks to carry out business procedures.

Quality, according to ISO-8402 (Loh, 2001:35), is the sum of a product's or service's facilities and qualities that match the needs, expressed or implicit. While one way of determining website quality based on end user perceptions is website quality (WebQual). Several factors are used to determine whether a website's quality is good or not, including usability, information quality, and interaction quality. The success of the company may be observed in the satisfaction of its users, and this user satisfaction is the foundation for the realization of loyal and loyal customers.

To achieve usability, websites must meet five criteria: easy to learn, efficient, easy to remember, low error rate, and user happiness (Suryanto and Herman, 2009). If a website is built in accordance with these principles, it will be suitable for providing user happiness. Other considerations include the use of search engines, the speed and popularity of the website, and its position on the Google page; the higher a website's position on Google's main page, the more popular it is. You can utilize existing tools, one of which is similarweb, to find out the

following. These tools are excellent for finding information about a website..

Diana, Nuri David Maria Veronika (2018) did research named Analysis of Bengkulu Province Website Quality. Using the Webqual 4.0 Method, respondents agreed that the Bengkulu Province e-government website was usable, that the information shown was of high quality, that service interaction was adequate, and that the overall quality of the Bengkulu Province e-government website was satisfactory [1]. According to research conducted by Ali Muhsin, Dinda Amanda Zuliestiana, SE, MM (2017) on the influence of website quality (webqual 4.0) on the satisfaction of Bukalapak users in the city of Bandung, Webqual Bakalapak partially had a significant effect on user satisfaction based on partial hypothesis testing (t-test). And it's all based on hypothesis testing that's going on at the same time (f-test) Bukalapak's Webqual has a big impact on user happiness at the same time [2]. Arif Masthori, Hanung Adi Nugroho, and Ridi Ferdiana conducted research (2016) regarding the application of the modified webqual method to assess the quality of local government internet services, This study develops a modified webqual approach that can be used to assess the quality of website services as well as the amount of benefits derived from their use, so that it can be used to assess the quality of local government website services more effectively comprehensively [3]. On research Pradita Pusfitaningrum, Yesni Malau, in the study of Jd.Id Website Quality Analysis on User Satisfaction Using the Webqual 4.0 Method. Declare bahwa based on the results of the processed data, it was found that there was a significant influence between the quality of the interaction on the satisfaction of the users of the JD.id website [4].

This study was carried out on Traveloka and Tiket.com, two Indonesian e-commerce travel websites. Both Traveloka and Tiket.com have a business to consumer (B2C) transaction structure, in which they provide online booking services for airline tickets and hotels, as well as online booking and ticketing capabilities that allow customers to reserve tickets. In the midst of other e-commerce travel competition, Traveloka and Tiket.com face their own hurdles in attracting customers. There are various strategies to attract customers, one of them is to maintain the website's quality so that customers feel at ease when using it. The quality of these two vacation e-commerce websites is undeniable, thus testing was conducted

on this site. As a result, the goal of this study is to estimate the level of user satisfaction based on four Webqual areas. Usability is concerned with the user's comfort and convenience while browsing the website; information quality is concerned with the quality of information offered by the website; and interaction quality is concerned with the service provided by user interaction with the website. This study is aimed to give thoughts on the relevance of implementing high-quality e-commerce travel websites as a beneficial input for e-commerce travel enterprises' growth and development. Information quality refers to how well a website provides information, whereas interaction quality refers to how well a user interacts with the website. This study is aimed to give thoughts on the relevance of implementing high-quality e-commerce travel websites as a beneficial input for e-commerce travel enterprises' growth and development. Information quality refers to how well a website provides information, whereas interaction quality refers to how well a user interacts with the website. This study is aimed to give thoughts on the relevance of implementing high-quality e-commerce travel websites as a beneficial input for e-commerce travel enterprises' growth and development.

II. THEORETICAL BASIC

A. E-commerce

Distributing, selling, purchasing, and marketing products (goods and services) over telecommunication methods such as the internet and Webqual 4.0 computer networks is referred to as e-commerce.

B. Website Quality

Website quality is an important term in electronic commerce since perceived website quality has a direct impact on whether or not people want to use it (MeCoy et al. 2009).

C. E-commerce Travel Website Ranking Data

Obtaining correct data for website ranking analysis necessitates the use of tools. Similarweb.com was employed in this study as a tool. This is also so that it can be determined whether the website's ranking corresponds to the use of travel e-commerce in Indonesia. There are various indicators that are the key variables in determining a website's rating, which are as follows:

1. Total Visits
   The total number of visits over a three-month period is the sum of all visits. Traveloka has the most visitors with 14.69 million, while Tiket.com has 9.162 million.
2. *Traffic Share*
   The number of people who visit a website is referred to as traffic share. In a comparison of these two websites, Traveloka has a 77.7% higher proportion than Tiket.com, which has a 22.3 percent higher percentage.
3. *Average Visit*
   The average duration of visits to e-commerce websites is known as the average visit. According to available data, the longest average visit is 3 minutes 50 seconds for Traveloka and 3 minutes 14 seconds for Tiket.com.

4. *Bounce Rate*
   The percentage of visitors that leave an e-commerce website without making a purchase is known as the bounce rate. The lower the bounce rate, the better the website will perform. The Tiket.com website has a lower bounce rate of 45.25 percent, whereas Traveloka has a bounce rate of 49.63 percent.
5. *Pages* Per Visit
   The average number of pages viewed per visit is called PagesPerVisit. According to available data, the Traveloka website has the highest average number of pages opened (3.79), followed by Tiket.com with 3.43. In the perspective of 3-4 pages that visitors have opened.
6. *Top Countries*
   The percentage of website visitors from each country is referred to as the top countries. According to available data, the traveloka website has the largest percentage of visits compared to Tiket.com, with 77.7% in Indonesia, 99.9% in Thailand, 99.9% in Vietnam, 99.9% in Malaysia, and 99.6% in the Philippines.

III. RESEARCH METHOD

A. Object of research

Travel e-commerce in Indonesia employing similar web technologies, such as Traveloka and Tiket.com, is the subject of this study. Similarweb is a website analysis, website comparison, data mining, traffic data, and other services platform. Similarweb can assist in determining the benefits and drawbacks of each website, and these tools can examine the data for each website in order to aid in the analysis of e-commerce travel. The research flow chart is summarized as follows:
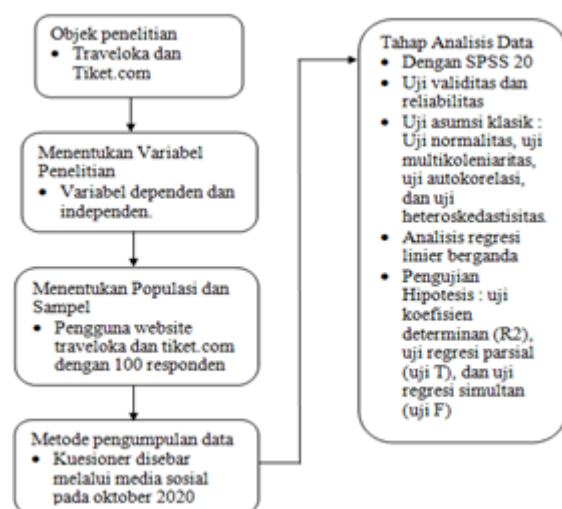

Fig. 1. Research Flowchart

B. Data

This study used quantitative data, which is a research approach for examining specific populations or samples, data gathering utilizing research equipment, and statistical analysis with the goal of testing existing hypotheses (Sugiyono, 2012).

Primary and secondary sources were used to compile the data for this investigation.

C. Research variable

The dependent and independent variables were employed as study variables. The dependent variable (Y) is a variable whose value is determined by or bound to the value of another variable. The happiness of e-commerce travel website customers is used as the dependent variable in this study. The independent variable (X) is a variable whose value influences the value of other variables (the dependent variable), in this case, usability, information quality, and interaction quality.

D. Population and Sample

Respondents who utilize the travel e-commerce websites Traveloka and Tiket.com comprise the population of this study, with 100 respondents serving as samples. This sample complied with existing guidelines, which say that the optimal sample size for a study should be between 30 and 500 people.

E. Method of Collecting Data

The data gathering method employed in this study was a questionnaire. Questionnaires are used to obtain basic data directly from respondents; respondents can only select from a set of alternative replies. Social media platforms such as Whatsapp, Line, Instagram, and others were used to distribute questionnaires.

F. Research Model

The effect of user convenience, information quality, and interaction quality on user satisfaction forms the basis of this study's research paradigm.
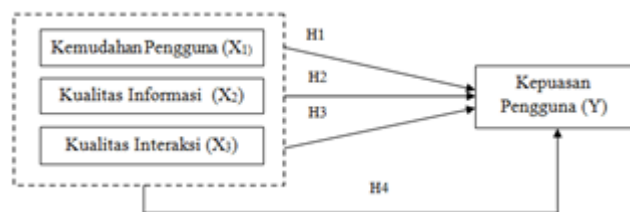

Fig. 2. Research Model

G. Data Analysis Method

The data was collected using SPSS 20 and descriptive statistical techniques, as well as multiple linear regression with one dependent variable (Y) and several independent variables (X1, X2, X3).

1. Quantitative Analysis
   Validity and reliability tests are used to do quantitative analysis. A questionnaire is said to be valid in the validity test if the questions on the questionnaire can reveal something that the questionnaire will measure.
2. Descriptive Analysis
   According to Sugiyono (2017), descriptive analysis is used to examine data by summarizing or explaining the data that has been obtained as it is, without making inferences or generalizations that are applicable to the general audience.

3. Classic assumption test
   In this study, inferential analysis was used to manage the research data, and the analysis was performed utilizing the SPSS procedure.
   - Graph analysis and statistical analysis were used to test normalcy in this study.
   - The multicollinearity test is used to see if the regression model found a link between the independent variables (independent).
   - The autocorrelation test is used to see if there is a link between user error in period t and user error in period t-1 in a linear regression model (Ghozali, 2016).
   - Test for heteroscedasticity, The heteroscedasticity test, according to Ghozali (2016), is used to see if the regression model has an error of variance inequality from one observation residual to the next.

4. Analysis of Multiple Linear Regressions
   The purpose of this study's multiple regression analysis is to see how the independent factors (usability, information quality, and service interaction quality) affect the dependent variable (user satisfaction). The following is the multiple linear regression equation model that will be tested in this investigation:

$$Y = \alpha + \beta 1\, X1 + \beta 2\, X2 + \beta 3\, X3$$

Where :

Y   : E-commerce Travel Website User Satisfaction
α : Constant
$\beta 1\ \beta 2\ \beta 3$: Regression Coefficient
X1   : User Ease
X2   : Information Quality
X3   : Interaction
e   : Error

5. Hypothesis test
   Hypothesis testing is a decision-making method based on data analysis, both from controlled experiments, and from observations (uncontrolled).
   1. Coefficient of Determination Test (R2)
      A value that describes how much change or variation of the dependent variable can be explained by changes or variations of the independent variable.
   2. Partial Regression Test (Statistical t Test)
      If t count > t table and probability (sig) < 0.05, then Ho is rejected and Ha is accepted, and vice versa.
   3. Simultaneous Regression Test (F Statistical Test)
      The test was carried out using a significance level of 0.05 (=5%). Provisions for acceptance or rejection of the hypothesis can be seen from if the significant value > 0.05 then the hypothesis is accepted (regression coefficient is not significant), and vice versa.α

IV.   RESULTS AND DISCUSSION

A. Respondent Data

According to the data, the respondents are mostly women between the ages of 20 and 35, with a bachelor's degree and a monthly income of Rp. 1,000,000 and Rp. 5,000,000.

B. Validity and Reliability Test

Validity test

r count > r table was calculated using the outcomes of the question items. This demonstrates that each question item in the questionnaire is valid, indicating that the data acquired can be used for regression analysis.

TABLE I. Validity and Reliability Results

	Item-Total Statistics			
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Usability	51.65	134,735	,925	,802
Quality	44.51	91,667	,961	,863
Interaction	64.78	193.951	,916	,866
Satisfaction	68.35	218,674	,947	,906

The reliability test reveals the findings of the Cronbach Alpha value () > 0.60 in the table above, indicating that all variables are stated to be reliable or trustworthy.

C. Classic assumption test

The goal of a normality test is to see if the variables being examined have a normal distribution or not. This assumption is checked using a standardized residual normal probability plot, which compares the normal distribution's cumulative distribution. Figure 3 depicts the findings of the investigation:
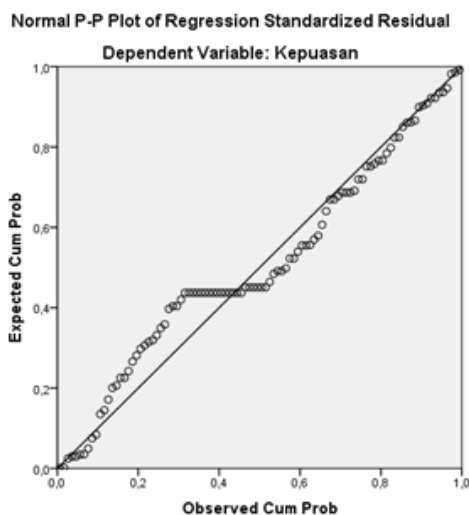

Fig. 3. Results of normality test graph analysis

As can be seen, the points spread around the diagonal line and the spread follows the diagonal line's direction, indicating that the data distribution is close to normal or fits the normality assumption.

The multicollinearity test for decision making in the multicollinearity test is carried out in two ways, namely looking at the tolerance value, if the tolerance value is > 0.10 then there is no multicollinearity to the data being tested, and

if the tolerance value is < 0.10 then there is multicollinearity to the data being tested. And look at the value of VIF (Variance Inflation Factor) if the value of VIF < 10.00 then there is no multicollinearity to the tested data and vice versa.

TABLE. II. Multicollinearity Test Results

	Coefficients^a						
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1 (Constant)	-,095	,287		-,330	,742		
X	1,120	,004	,999	272,971	,000	1,000	1,000
a. Dependent Variable: Y							

Table II shows that the tolerance value for the total variable is larger than 0.10 (Tol > 0.10) and VIF is less than 10 (VIF 10), indicating that multicollinearity does not exist in this regression model for all independent variables in this investigation.

The autocorrelation test determines whether there is a relationship between the confounding error in period t and the error in period t − 1 in a linear regression model (previous). The premise is that if du d 4 − du, then no autocorrelation exists.

TABLE III. Durbin Watson (DW)

	Model Summary^b				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,948a	,899	,896	,601	2,060
a. Predictors: (Constant), Interaction, Usability, Quality					
b. Dependent Variable: Satisfaction					

Durbin-Watson obtained a value of 2.060 (d = 2.060) as can be seen in table III. The Durbin Watson table with K-3 in 100 respondents has a value of du = 1.736, and the results for 4-du = 2.264, or 1.736 2.060 2.264, which means that the Durbin Watson value does not occur symptoms autocorrelation in this regression model.

The heteroscedasticity test determines whether there is an inequality of variance between the results of one observation and the results of another observation in the regression model.
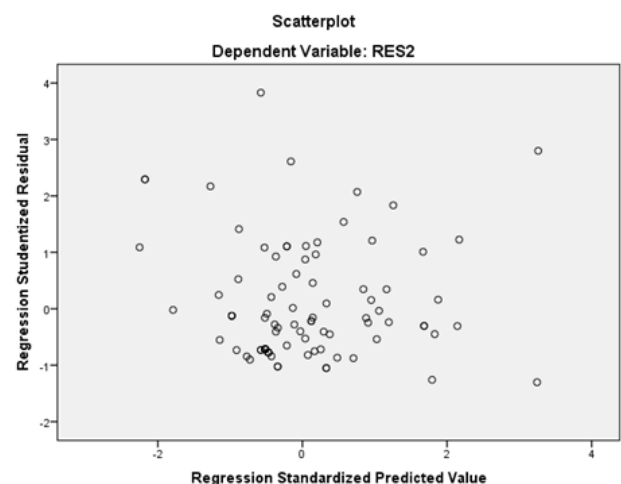

Fig. 4. Scatterplot

The data points are randomly distributed above and below the number 0 on the Y axis, as seen in the scatterplot diagram in figure 4. This signifies that the regression model has no skedastisity and can be used in multiple linear regression testing.

Hypothesis Testing and Regression Analysis The parallels between the independent variables of e-commerce travel and the independent variables of user convenience, information quality, and interaction quality are shown in the findings of this regression study. Table IV shows the results of the multiple regression analysis:

TABLE. IV. Multiple Linear Regression Analysis

	Coefficients[a]				
Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	-,007	,293		-,025	,980
Usability	,072	0.030	,201	2,372	0.020
Quality	,158	,028	,605	5.565	,000
Interaction	,109	0.054	,165	2,005	0.048
a. Dependent Variable: Satisfaction					

The various linear regression equations that can be arranged are listed in table IV:

$$Y = -0.007 + 0.072 \text{ Usability} + 0.158 \text{ Quality} + 0.109 \text{ interaction} + e$$

Hypothesis test

The goal of the Coefficient of Determination Test (R2) is to calculate the influence of the independent variable on the dependent variable.

TABLE. V. Coefficient of Determination Test R2

	Model Summary[b]				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,948a	,899	,896	,601	2,060
a. Predictors: (Constant), Interaction, Usability, Quality					
b. Dependent Variable: Satisfaction					

The modified R2 value for Table V is 0.896, or 89.6 percent. This suggests that the variance of the three independent variables of user convenience, information quality, and interaction quality can explain the total user satisfaction of travel e-commerce websites.

The purpose of the partial significance test (t-test) is to examine the effect of variables in the regression model on the independent variables in part. The hypothesis is accepted if the value of sig is less than 0.05. This indicates that the independent variable has a moderate impact on the dependent variable. and the other way around.

TABLE. VI. Partial Regression Test (t Test)

	Coefficients[a]					
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	-,007	,293		-,025	,980
	Usability	,072	0.030	,201	2,372	0.020
	Quality	,158	,028	,605	5.565	,000
	Interaction	,109	0.054	,165	2,005	0.048
a. Dependent Variable: Satisfaction						

The findings of hypothesis testing of usability, information quality, and interaction quality have sig values, as indicated in table VI. smaller than 0.05, implying that the three variables have a significant impact on user satisfaction on travel e-commerce sites such as traveloka and tiket.com.

The significance of the regression model is simultaneously verified by looking at the significance value (sig), where if the sig value is less than 0.05, the independent variable has an effect on the dependent variable.

TABLE. VII. Simultaneous Regression Test (F Test)

	ANOVA[a]					
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	310,640	3	103.547	286,304	,000b
	Residual	34,720	96	,362		
	Total	345,360	99			
a. Dependent Variable: Satisfaction						
b. Predictors: (Constant), Interaction, Usability, Quality						

The value of sig. of 0.000 is less than 0.05, as shown in table VII. This means that H0 is rejected and H4 is approved, implying that all usability, information quality, and interaction quality variables influence e-commerce website consumers' happiness at the same time.

V. CONCLUSION

Based on the results of the research analysis that has been carried out, the following conclusions are obtained:

1. The results of hypothesis testing suggest that two of the three independent variables have a value of sig 0.05 (usability = 0.020, quality of information = 0.000, and quality of interaction = 0.045), which has a significant impact on e-commerce website users' satisfaction.
2. All three variables, usability, quality of information, and quality of interaction, have a combined influence (sig = 0.000 0.05) on e-commerce website users' satisfaction.

The authors propose the following based on the findings of their investigation into the quality analysis of the Traveloka and Tiket.com websites:

1. For user quality (usability), information quality, and interaction quality on Traveloka and Tiket.com have a positive relationship to user satisfaction, so the authors hope that Traveloka and Tiket.com management can continue to improve the quality of their websites so that consumers feel more comfortable and safe in use the company's website, because the higher the quality of the website, the more customer satisfaction will increase,
2. It is advised that more questionnaires be distributed in the process of gathering respondent data, since more diversified respondents are expected, resulting in more accurate respondent data. Further research is recommended to compare the two or to include the same object with e-commerce travel.

REFERENCES

[1] Arif, Masthori. Hanung, Adi, Nugroho, and Ridi, Ferdiana. (2016). Use of Modified Webqual Method in Evaluation of Local Government Website Service Quality. Journal of Pekommas, Vol.1 no.1, April 2016:57-68.

[2] Ali, Mohsin. and Dinda, Amanda, Zuliestiana, SE, MM (2017). Analysis of the Effect of Website Quality (WebQual 4.0) on Bukalapak User Satisfaction in Bandung City. E-Proceeding of Management : Vol.4, No.3, December 2017. Page 2424 ISSN : 2355-9357.

[3] Diana, Nuri David Maria Veronika. (2018). Bengkulu Province Website Quality Analysis Using the Webqual 4.0 Method. Pseudocode Journal. Vol. V No. February 1, 2018. ISSN: 2355-5920.

[4] Widya, Sastika. (2015). Website Quality Influence Analysis(Webqual 4.0) Against Purchase Decisions on the Traveloka E-Commerce Website (Case Study: Traveloka Users in Bandung City in 2015). National Seminar on Information and Communication Technology 2016 (SENTIKA 2016). ISSN : 2089-9815.

[5] Pradita, Pusfitaningrum. and Yesni, Malau. (2018). Jd.Id Website Quality Analysis on User Satisfaction Using the Webqual 4.0 Method. Jiet: Vol. 2 No. 2, 2018 (Journal of Information Engineering And Educational Technology).

[6] M. Tantowi, Jauhari. Andriani, Kusumawati. and Inggang, Perwangsa, Nuralam. (2019). The Impact Of Website Quality On Consumer Satisfaction And Purchase Intention (Study Case Of E-Commerce Lazada Indonesia In Malang City). Journal of Business Administration (Jab) Vol. 67 No. 1, February 2019.

[7] Henny, Medyawati. And Muhammad, Yunanto. (2017). Factors Affecting The Intention of Using InternetBanking : A Case Study On One Of The National Private Banks In Indonesia. Journal Of Internet Banking And Commerce, December 2017, Vol. 22, No.3.

[8] Sugiyono. (2012). Qualitative Research Methods. Bandung : ALFABETA.

[9] McLeod Pearson. (2008). Management information System. Salemba : Jakarta.

[10] Suryanto, and, Asep Herman.(2009). Step by Step Web Design Theory and Practices. Yogyakarta : CV Andika Offset.