

Evaluation Of User Satisfaction Towards New Student Admission Website Quality

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Abstract

This study aims to evaluate the quality of the IAKN Tarutung PMB website using the WebQual approach. The population in this study were users of the IAKN Tarutung PMB website, where the total sample was 201 respondents by using purposive sampling Webqual 4.0. Webqual 4.0 consists of 4 variables, namely Usability, Information Quality, Service Interaction Quality, and Overall. The research method used is a survey with a questionnaire based on Webqual 4.0. The results of the validity and reliability tests show that all questionnaire items are valid and reliable because they meet the requirements. The results of multiple correlation analysis also indicate a strong relationship between the independent and dependent variables in this study. Moreover, based on the data analysis that Webqual can be used to analyze the quality of several websites, both internal (intranet) and external websites. So the conclusion is usability, information quality, and service interaction is jointly influence user satisfaction.

Keywords: user satisfaction, website quality, equal web approach

I. INTRODUCTION

In the field of education, the role of internet technology is felt to be increasingly important because it provides various benefits for universities. Through the internet, we can easily get all information, which is why universities provide their services through websites as a means of information and communication. The website is the application of Internet services are most widely used; almost 9,0% of internet service dominated by the website.

The State Christian Institute (IAKN) Tarutung is one of the state universities located in Tarutung City, North Tapanuli Regency (Campus 1) and in Sipoholon District (Campus 2), North Tapanuli Regency, North Sumatera. It is a college of IAKN religion Christian protestant first in Indonesia, under the auspices of the Directorate General of the Christian Community Guidance, Ministry of Religious Affairs of the Republic of Indonesia.

Until now, IAKN Tarutung continues to increase the number of new students every year. A large number of applicants (prospective students) is a reflection of the quality of a university. To be able to compete with state universities else, IAKN Tarutung is continuing to improve quality through improving the quality of education, teaching, infrastructure, administration services, as well as increasing promotion through print, electronic, and the internet. In connection with this, IAKN Tarutung has a web site of new admissions (PMB) to address <https://pmb.iakntarutung.ac.id/>, as a promotional tool and conduit of information about new admission to the citizens of campus lodging and society broad generally.

The PMB website is used as an information system designed to register and select new students at IAKN Tarutung. The PMB website is used and utilized by prospective new students and the university as a reference in the capacity and number of prospective new students. PMB websites serve as a base to service and continue to be improved, which is expected to provide convenience for the Most students and parents to the community in the registration. PMB website is designed in order to provide convenience for the prospective students who enrolled and provide a guarantee of due process, transparency, and accountability for the wider communities. Using the PMB website makes it easy for parents and prospective new students to find out information about the implementation of new student admission selections, register and monitor the results of the selection because they can be easily accessed via gadgets or other devices connected to the internet.

The IAKN Tarutung PMB website is truly an online software application service product. Improve the effectiveness of the website PMB IAKN Tarutung is not enough if there is no any good service or performance from the website PMB committee. Measuring user satisfaction is an important element in providing better, more efficient, and more effective service. The equal web method (website quality) is the right method for measuring the quality of a website. In the method of the web, equal variables needed in measuring the quality of a website include quality usability (usability), the quality of information (information quality), and the quality of interaction service (service interaction quality) within a website.

By looking at the background of the problems described above, this study discusses the evaluation of user satisfaction on the quality of the IAKN Tarutung New Student Admissions Website (PMB).

II. METHODS

The method used in this research is quantitative research methods. In accordance with the background of the problems described above, this research is a type of questionnaire-based survey research that is distributed to respondents.

III. RESEARCH INSTRUMENTS

In this study, the instrument was used to measure the value of the variables to be studied using a questionnaire. The variables used are of variable quality (X) is the quality of usability (usability), the quality of information (information quality), and the quality of interaction service (service interaction quality) PMB website IAKN Tarutung and variable user satisfaction (Y). The questionnaire that is structured contains a list of questions with a total number of questions is 13 questions. The questionnaire was built using LSR (Likert Summated Rating), which consists of 5 scales to assess the quality of the website, namely 1 = Very Dissatisfied, 2 = Not Satisfied, 3 = Doubtful, 4 = Satisfied, and 5 = Very Satisfied.

Table 1. The IAKN Tarutung PMB Website User Satisfaction Questionnaire

No.	Usability	STP	TP	RR	P	SP
1	PMB Online website is easy to access/operate					
2	PMB Online website has an attractive appearance					
3	PMB Online website can be accessed 24 hours/day					
No.	Information Quality	STP	TP	RR	P	SP
4	PMB Online website provides self-explanatory information					

5	PMB Online website provides reliable information					
6	The PMB Online website provides information that is easy to read and understand					
7	The PMB Online website provides complete and detailed information.					
8	PMB Online website provides information in a format according to needs / proportional					
No.	Service Interaction Quality	STP	TP	RR	P	SP
9	PMB Online website guarantees the security of your data					
10	The PMB Online website facilitates communication with higher education institutions, in this case, the Website Admin / Manager.					
11	PMB Online website guarantees the accuracy and accuracy of the data provided					
No.	User Satisfaction	STP	TP	RR	P	SP
12	Recommend others to register through the PMB Online Website					
13	Satisfied with using the PMB Online Website					

Information:

STP: Very Dissatisfied

TP: Not satisfied

RR: Not sure

P: Satisfied

SP: Very satisfied

IV. METHOD OD COLLECTING DATA

The data collection technique in this study used a questionnaire instrument consisting of a number of written questions that were used to obtain information from respondents about their perceptions regarding the quality of the website. The population in this study were users, namely online registrants. The total population in this study were 405 people. Based on the existing population, the minimum number of samples taken can be calculated using the Slovin formula as follows:

The calculation of sample determination in this study is as follows:

$$n = \frac{N}{1+N.e^2} \quad (1)$$

Description:

N = number of sampel

N = Number of population (405 respondents)

e² = sampling error up to 5%

$$n = \frac{405}{1+ 405 (0,05)^2}$$

n = 201.24

n = 201

Thus the number of samples in this study was 201 respondents, namely website users with the criteria of online registrants.

IV.1 Results

User Satisfaction

Satisfaction comes from Latin, which means good enough, adequate, and *facio* means doing or making. Satisfaction can be interpreted as an effort to fulfill something or make something adequate.

Website

In terminology, the definition of a website or site is a collection of pages that display information on data, text, images, animation data, sound, and a combination of all of them, both static and dynamic, which form a series of buildings that are interrelated hyperlinks, (Wahyudi, A. 2014). According to Arief (2011: 7), a website or web is one application that contains the multimedia documents (text, images, sound, animation, video) in which use HTTP (hypertext transfer protocol), and to access it using software called a browser. According to Rachman (2013), the website is one of the revolutions in the field of internet technology-based information. Website is expected to be an alternative for developing information systems at a low cost.

Webqual (Website Quality)

Webqual (website quality) is a method or technique of measuring the quality level of a website based on the perceptions of the end-user. This method is a development of Servqual (service quality), which was widely used previously in measuring service quality. Webqual is a website quality measurement method developed by Stuart Barnes and Richard Vidgen (1998) based on end-user perceptions. Webqual can be used to analyze the quality of several websites, both internal (intranet) and external websites.

There are several versions of the Webqual model where each version is used in a different study which is tailored to the population and research needs, namely as follows:

1. Webqual 1.0 consists of 4 variables, namely Usefulness, Easy of Use, Entertainment, and Interaction. The first version of Webqual is strong in the information quality dimension but weak in the service interaction.
2. Webqual 2.0 is divided into three different areas, namely Quality of Website, Quality of Information, and Quality of Service Interaction. Webqual 2.0 develops interaction aspects by adopting service quality.
3. Webqual 3.0 was tested to identify three variables for the quality of e-commerce websites, namely Usability, Information Quality, and Quality of Service Interaction.
4. Webqual 4.0 consists of 4 variables, namely Usability, Information Quality, Service Interaction Quality, and Overall.

This study uses WebQual 4.0, with the Usability, Information Quality, Service Interaction Quality variables acting as the independent variable, while the Overall variable here is more defined as towards User Satisfaction and acts as the dependent variable.

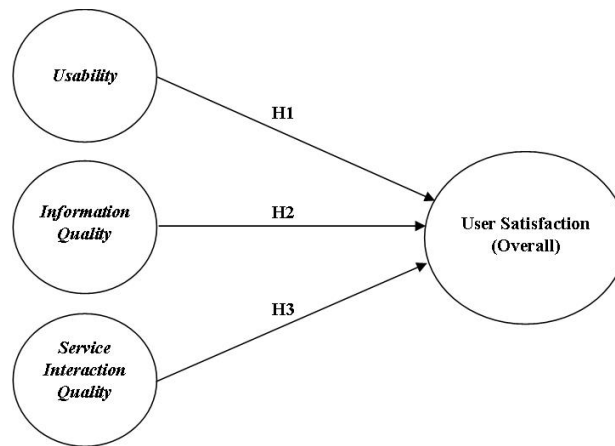


Figure 1. Conceptual Framework for Research with *Webqual*

Description :

H1: *Usability* on the IAKN Tarutung PMB website has a direct positive effect on *User Satisfaction*

H2: *Information Quality* on the IAKN Tarutung PMB website has a direct positive effect on *User Satisfaction*

H3: *Service Interaction Quality* (Quality Interactions of Service) on PMB's website IAKN Tarutung direct positive effect on the *User Satisfaction* (User Experience).

V. VALIDITY TEST RESULTS

The validity test is a testing step carried out on the content of an instrument with the aim of measuring the accuracy of the instrument (questionnaire) used in the study. The data validity test is carried out to measure whether the data provided in the questionnaire is reliable or not and can be trusted to measure what intentionally to measure.

Table 2. Usability Variable (Quality of Usefulness) (X1)
 Correlations

		X1.1	X1.2	X1.3	Total_ X1
X1.1	Pearson Correlation	1	.736**	.596**	.893**
	Sig. (2-tailed)		.000	.000	.000
	N	201	201	201	201
X1.2	Pearson Correlation	.736**	1	.629**	.898**
	Sig. (2-tailed)	.000		.000	.000
	N	201	201	201	201
X1.3	Pearson Correlation	.596**	.629**	1	.840**
	Sig. (2-tailed)	.000	.000		.000
	N	201	201	201	201
Total_ X1	Pearson Correlation	.893**	.898**	.840**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	201	201	201	201

** . Correlation is significant at the 0.01 level (2-tailed).

Variable is more than the r table value (0.1384). This means that the results of the validity test show that all questionnaire items are declared valid.

Table 3. Variable Information Quality (Quality of Information) (X2)

		Correlations					
		X 2.1	X2.2	3 X2.	4 X2.	X 2.5	Total_ X2
X2.1	Pearson Correlation	1	.746**	.747**	.793**	.736*	.888**
	Sig. (2-tailed)		.000	.000	.000	.000	.000
	N	201	201	201	201	201	201
X2.2	Pearson Correlation	.746*	1	.754**	.823**	.703*	.892**
	Sig. (2-tailed)	.000		.000	.000	.000	.000
	N	201	201	201	201	201	201
X2.3	Pearson Correlation	.747*	.754**	1	.804**	.745*	.899**
	Sig. (2-tailed)	.000	.000		.000	.000	.000
	N	201	201	201	201	201	201
X2.4	Pearson Correlation	.793*	.823**	.804**	1	.827*	.941**
	Sig. (2-tailed)	.000	.000	.000		.000	.000
	N	201	201	201	201	201	201
X2.5	Pearson Correlation	.736*	.703**	.745**	.827**	1	.891**
	Sig. (2-tailed)	.000	.000	.000	.000		.000
	N	201	201	201	201	201	201
Total_ X2	Pearson Correlation	.888*	.892**	.899**	.941**	.891*	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	
	N	201	201	201	201	201	201

** . Correlation is significant at the 0.01 level (2-tailed).

The Information Quality variable is more than the r table value (0.1384). This means that the results of the validity test show that all questionnaire items are valid.

Table 4. Variable Service Interaction Quality (Quality of Service Interaction, (X3))

		Correlations			
		X3.1	X3.2	X3.3	Total X3
X3.1	Pearson Correlation	1	.692**	.765**	.901**
	Sig. (2-tailed)		.000	.000	.000
	N	201	201	201	201
X3.2	Pearson Correlation	.692**	1	.739**	.897**
	Sig. (2-tailed)	.000		.000	.000
	N	201	201	201	201
X3.3	Pearson Correlation	.765**	.739**	1	.921**
	Sig. (2-tailed)				
	N	201	201	201	201

	Sig. (2-tailed)	.000	.000		.000
	N	201	201	201	201
Total_X3	Pearson Correlation	.901**	.897**	.921**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	201	201	201	201

** . Correlation is significant at the 0.01 level (2-tailed).

In the table above, all correlation values or r count for each question on the Service Interaction Quality variable are more than the value of r table (0.1384). This means that the results of the validity test show that all questionnaire items are valid.

Table 5. Variable *User Satisfaction* (User Experience) (Y)
Correlations

		Y1.1	Y1.2	Total_Y1
Y1.1	Pearson Correlation	1	.615**	.894**
	Sig. (2-tailed)		.000	.000
	N	201	201	201
Y1.2	Pearson Correlation	.615**	1	.903**
	Sig. (2-tailed)	.000		.000
	N	201	201	201
Total_Y1	Pearson Correlation	.894**	.903**	1
	Sig. (2-tailed)	.000	.000	
	N	201	201	201

** . Correlation is significant at the 0.01 level (2-tailed).

In the table above, all correlation values or r count for each question on the Service User Satisfaction variable is more than the value of r table (0.1384). This means that the results of the validity test show that all questionnaire items are valid.

VI. RELIABILITY TEST

The reliability test is intended to measure the degree to which the degree of accuracy, precision, or accuracy is indicated by the measurement instrument. The reliability test was conducted using the internal consistency method. Internal consistency was measured using the Cronbach Alpha coefficient. The decision- making provisions used are:

- If the Alpha value > 0.60 then, the variable is in a reliable status.
- If the Alpha value < 0.60 then, the variable is not reliable.

Table 6. Results of Cronbach's Alpha

Variable	Cronbach's Alpha	N of Items	Information
Usability (X1)	.855	4	Reliable
Information Quality (X2)	.826	6	Reliable
Service Interaction Quality (X3)	.865	4	Reliable
User Satisfaction (Y)	.893	3	Reliable

The summary of the reliability test can be seen in table 6

Table 7. Summary of Reliability Test

Variable	Cronbach Alpha	Information
<i>Usability (X1)</i>	0.855	Reliable
<i>Information Quality (X2)</i>	0.826	Reliable
<i>Service Interaction Quality (X3)</i>	0.865	Reliable
<i>User Satisfaction (Y)</i>	0.893	Reliable

VII. DISCUSSION

Multiple Linear Regression Test

Multiple linear regression test is used to find out whether the variables usability, information quality, and service interaction quality have an effect on the user satisfaction variable, which means there are three variables X and one variable Y.

Analysis of the coefficient of determination

Table 8. Regression Model Summary output

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.946 ^a	.896	.894	.748

a. Predictors: (Constant), (X3), (X1), (X2)

b. Dependent Variable: Total_Y1

Analysis of R² (R Square) or the coefficient of determination is used to determine how much influence the percentage contribution of independent variables together to influence the dependent variable. From the result of the table, Output Regression Model Summary can know the value of R² (Adjusted R Square) is 0.894. So the contribution of the influence of the independent variable is 89%, while for the remaining 11%, it is influenced by other factors not examined.

Table 9. ANOVA Regression Output
ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	946.610	3	315.537	564.345	.000 ^b
	Residual	110.147	197	.559		
	Total	1056.756	200			

a. Dependent Variable: Total_Y1

b. Predictors: (Constant), (X3), (X1), (X2)

Table 10. Output Regression Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients Beta	t	Sig.
	B	Std. Error			
(Constant)	-.374	.216		-1.734	.084
Usability (X1)	.389	.033	.550	11.872	.000
Information Quality (X2)	-.013	.024	-.029	-0.521	.603
Service Interaction Quality (X3)	.325	.035	.470	9.333	.000

a. Dependent Variable: Total_Y1

Multiple Linear Regression Analysis

Obtained the equation:

$$Y = a + b_1X_1 + b_2X_2 + b_3X_3$$

$$Y = -0.374 + 0.389 X_1 + (-0.013) X_2 + 0.325 X_3$$

Where:

Y = is the dependent variable which is predicted by a is a constant value b1, b2, b3 = are multiple linear regression coefficients

X1, X2, X3 = are independent variables

Information from the multiple linear regression model above is as follows:

- The constant value shows -0.374, meaning that if the *usability* (X1), *information quality* (X2), and *service interaction* (X3) was 0 (zero), the level of satisfaction (Y) will decrease.
- Variable regression coefficient value of *usability* (b1) = 0.389 means improved usability value of 0.1 unit of the level of *user satisfaction* will increase by 0.389.
- Variable regression coefficient value *information quality* (b2) = -0.013 means that the value of *information quality* is increased by 0.1 unit of the level of *user satisfaction* will increase by 0.013
- Variable regression coefficients *service interaction quality* (b3) = 0.325 means that the value of *service interaction* is increased by 0.1 unit of the level of *user satisfaction* will increase by 0, 325.

VIII. REGRESSION COEFFICIENT TEST TOGETHER (TEST F)

The F test is used to test the independent variables together with the dependent variable. The test procedure is as follows:

- Determining Hypotheses
 - Ho: The variables of *usability*, *information quality*, and *service interaction quality* together have no effect on the *user satisfaction* variable.
 - Ha: The variables *usability*, *information quality*, and *service interaction quality* together have an effect on the *user satisfaction* variable.
- Determine significance
 - The significance level uses 0.05
- Determine F count and F table
 - F count is 564,345 in table 9.

2) The F table is sought in the statistical table at a significance of 0.05, with the following equation:

$$df1 = k - 1 \text{ or } 3 - 1 = 2$$

$$df2 = n - k \text{ or } 201 - 3 = 198$$

Where: k = number of independent variables n = number of questionnaires

Based on these calculations, the F table is obtained at 3.04.

d. Decision-making

If F count < F table, then Ho is accepted, and if F count > F table, then Ho is rejected.

IX. PARTIAL REGRESSION COEFFICIENT TEST (T-TEST)

T-test was used to test the effect of the independent variable partially on the dependent variable. The test procedure is as follows:

a. Determining Hypotheses

Ho: The independent variable partially has no effect on the dependent variable.

Ha: The independent variable partially affects the dependent variable.

b. Determining the Level of Significance The significance level uses 0.05

c. Determine Count T and T Table

1) T count for each independent variable can be seen in table 10.

2) T table can be found in the statistical table at a significance of 0.05 with the equation:

$$df = n - k - 1 \text{ n} = \text{number of questionnaires}$$

$$k = \text{number of independent variables, } df = 201 - 3 - 1 = 197$$

From these calculations, obtained a T table of 1.972.

d. Decision Making

If T count < T table or - T count > - T table, then Ho is accepted, and if T count > T table or T count ≤ T table, then Ho is rejected.

Based on the test procedure above, it can be determined whether there is a partial influence of the independent variable on the dependent variable.

1. B1 (*Usability*) testing

It can be seen that T count = 11,872 > T table = 1,972 then Ho is rejected and Ha is accepted.

So the conclusion is partially independent variables affect the dependent variable

2. B2 test (*Information Quality*)

It can be seen that T count = - 0.521 < T table = 1.972 then Ho is accepted and Ha is rejected.

So the conclusion that the independent variables are partial no effect on the dependent variable.

3. B3 test (*Service Interaction Quality*)

It can be seen that T count = 9,333 > T table = 1,972 then Ho is rejected and Ha is accepted.

So the conclusion that the independent variables partially affect the dependent variable.

X. CONCLUSIONS

Based on the discussion that has been described, it can be concluded as the following:

1. *Usability* variables, *information quality*, and *service interaction quality* together have an effect on the *user satisfaction* variable.

2. *Usability* variables and *service interaction quality* partially affect variable *user Satisfaction*.

3. *Information Quality* variable partially has no effect on variable *user satisfaction*.

4. It can be seen that F count = 564,345 > F table = 3.04, then Ho is rejected and Ha is accepted. So the conclusion is *usability*, *information quality*, and *service interaction* is jointly influence

user satisfaction

5. From the result of the table *Output Regression Summary Model* can know the value of R (*Adjusted R Square*) is 0.894. So the contribution of the influence of the independent variable is 89%, while for the remaining 11%, it is influenced by other factors not examined. The interpretation is that the website quality influences the users' satisfaction on PMB (new students enrolment) of IAKN Tarutung.
6. The results of the assessment of the IAKN Tarutung PMB website are used as *feedback* for evaluating the development and improvement of the IAKN Tarutung PMB website that is better.

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