Website Quality Evaluation of Visitor Satisfaction (Case Study: SBMPTN website)

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Abstract *— This study aimed to evaluate the level of visitor satisfaction with the quality of usability, quality of information, and quality of interaction on the SBMPTN website. Data collection techniques used questionnaires distributed online, and data analysis used the Webqual 4.0 instrument with the Bivariate Correlations - Pearson method to process data. The results of the study showed that the quality of the use of the website, the quality of the information on the website, and the quality of website interaction effected very positively and significantly on visitor satisfaction.*

Keywords— *Website quality, customer satisfaction, loyalty, webqual.*

I. INTRODUCTION

The rapid development of information technology makes distance and time no longer a barrier to get information. In line with this, the role of web sites as a medium of communication and information dissemination on the internet is very important. The websites are now becoming more varied than the ones that originally only provided information, nowadays websites pay more attention to the appearance, ease the use of graphic design, loading time, interaction with users, and so on. This is in line with the opinion of Simarmata (2013), that the web is a system with information presented in the form of text, images, sounds, and others stored on an internet web server that is presented in the form of hypertext.

The education sector has not only used a website to display organizational profiles but also to exchange data and information. One of the most visited websites is the State Higher Education Entrance Joint Selection website (SBMPTN). The SBMPTN website is a website that is used to accommodate registration selection into state universities throughout Indonesia. This site also displays information and other features such as the test schedule, announcement of the results of the exam, a list of state universities throughout Indonesia accompanied by links to the respective college sites.

Every year this website always be accessed by visitors, especially students of senior high school, vocational school, Islamic high school and other similar level school throughout Indonesia, where the number is increasing from year to year as shown in the following table,

Therefore, the author will conduct a study to evaluate the quality of the SBMPTN site which is located at www.sbmptn.ac.id, based on a questionnaire distributed to visitors using the Webqual 4.0 method.

The purpose of this study was to evaluate the level of visitor satisfaction based on Webqual parameters, namely the quality of usability, the quality of information, and the quality of interactions with the SBMPTN website.

Table 1. Statistics on Number of Participants in SBMPTN

REGISTER STATUS	2014	2015	2016	2017
Registrant	664.509	764.185	721.326	797.023
Regular / Non Bidikmisi	583.590	763.499	596.928	639.049
Bidikmisi	80.919	90.686	124.398	157.974
Capacity	91.294	115.788	126.804	128.085
	64 PTN	74 PTN	78 PTN	85 PTN

(Source: https://ristekdikti.go.id/hasil-rekapitulasi-pendaftaran-sbmptn-2017/)

II. LITERATURE REVIEW

A. Website

The website means a collection of various pages that are used to display information in the form of text, motion and static pictures, data, animation, sound, video and or combination of them. As Simarmata (2013) argues, that the web is a system with information presented in the form of text, images, sounds, and others stored on an internet web server that is presented in the form of hypertext. Web information is generally written in HTML format. Web interactions are divided into three steps, namely demand, processing and answers.

B. Quality of Website

The definition of quality according to Ziemba (2016) is a characteristic, feature, or trait. Quality can be interpreted as the totality of features and characteristics of a product or service related to its ability to meet implied or stated needs. The quality of a website will affect user satisfaction and loyalty to the product or service offered. While users are the ultimate target of a website, and quality is what user feel (Fogli & Guida, 2015).

Effective website according to Rayport and Jaworski (2009), is website which displays seven elements, namely (1) Context: layout and design; (2) Content: text, images, sounds and videos on the website; (3) Community: how the site allows communication between users; (4) Customization: the ability of a website to deliver itself to various users or allow users to personalize the site; (5) Communication: how the site allows site communication with users and users with the site; (6) Connection: the level of the site's relationship with other sites; (7) Commerce: site's ability to allow commercial transactions.

C. Satisfaction

Billy, Rob & Ivan (2008) state that consumer satisfaction can be defined as an evaluation of a product or service in relation to consumers needs and expectations. This is seen as a

summary of the psychological state resulting in the emergence of emotions surrounding the failure to achieve expectations combined with the previous feelings of consumers about their experiences.

While Helson's theory states that the level of individual satisfaction depends on the relationship between the initial expectations created with the results obtained (Flavian, Guinaliu & Gurrea, 2006). So that when a high level of satisfaction has been achieved it will foster loyalty in the customer.

D. The Concept of Webqual 4.0

Webqual is a method for assessing the usability, quality of information and quality of service interactions from web pages on the internet. Webqual is one method of measuring website quality which was developed by Stuart Barnes and Richard Vidgen (1998) based on end-user perceptions.

The Webqual 4.0 version is a development from the previous version. In version 4.0, usability dimensions replace site quality because of the reason for the emphasis on users and user perceptions, not on website developers. Besides the reason the term usability is taken because it is commonly used in the human and computer interaction literature.

The following is an explanation of the three dimensions:

1. Usability Quality, namely the quality dimension related to site design and usability. This dimension includes appearance, interface, ease of use, ease of understanding, ease of navigation, and displays an attractive visual form.
2. Information Quality, which is the dimension of the content of information on the site (conformity of information with user objectives), such as the accuracy of information, context, format, and its relevance.
3. Service Interaction, namely the dimensions of quality of service interactions experienced by users that are manifested by trust and empathy, for example a sense of security during transaction and information security, product delivery, personalization and communication with site owners.

The research instruments used in Webqual 4.0 refer to the following table.

Table 2. Webqual 4.0 Instrument

Category	WebQual 4.0 question
Usability	1. I find the site easy to learn to operate
	2. My interaction with the site is clear and understandable
	3. I find the site easy to navigate
	4. I find the site easy to use
	5. The site has an attractive appearance
	6. The design is appropriate to the type of site
	7. The site conveys a sense of competency
	8. The site creates a positive experience for me
Information Quality	1. Provides accurate information
	2. Provides believable information
	3. Provides timely information
	4. Provides relevant information
	5. Provides easy to understand information
	6. Provides information at the right level of detail
	7. Presents the information in an appropriate format
Service Interaction	1. Has a good reputation
	2. It feels safe to complete transactions
	3. My personal information feels secure
	4. Creates a sense of personalization
	5. Creates a sense of community
	6. Makes it easy to communicate with the organization
	7. I feel confident that goods/services will be delivered as promised
Overall	1. Overall view of the web site

III. RESEARCH METHOD

A. Overview of Research

The type of research used is in the form of surveys and case studies, and the data used is in the form of quantitative data, which is focused on one particular object as a case study, namely the SBMPTN website.

B. Hypothesis

The hypothesis of this study is "the quality of a website has an effect on customer satisfaction".

C. Location and Time of Research

The study was conducted from March to May 2018, the study was conducted on class XII students of Senior High School/Islamic High School/Vocational School and similar level school throughout Indonesia who will continue their education to state universities by registering through the website www.sbmptn.ac.id, then asked to fill out questionnaires shared online.

D. Data Collection

Population and Samples

The population in this study was class XII students of Senior High School/Islamic High School/Vocational School and similar level school. While the sample in this study was class XII of Senior High School/Islamic High School/Vocational School and similar level school who will take the joint selection examination to enter state universities. Data collection techniques used in this study were distributing questionnaires to respondents by online.

E. Research Instrument

This study uses the Webqual method, in this case the three dimensions of the quality of the website will then be used as independent variables, while customer satisfaction is the dependent variable.

F. Stages of Data Analysis

Validity Test

Validity test is done to compare between r count with r table. If r count > r table, it means that the data are valid, and if r count < r table, it means that the data are invalid. The data were processed in the SPSS program using the Bivariate Correlations - Pearson method.

Reliability Test

Reliability testing is done on valid questions. By using the Cronbach Alpha method, resulting in a comparison of r alpha values and r table.

Normality Test

Data normalization is done to find out whether the data is normally distributed or not. This test is carried out using the Probability Plots (P-P Plots) method. The basis of decision making to detect normality is if the data spread around the

diagonal line and follow the diagonal direction, the regression model meets the assumption of normality.

Linearity Test

Linearity is a form of relationship between independent variables and the dependent variable is linear. To find out whether the two variables show a linear or no relationship can be done by comparing the significance value of linearity with the determined significance of 0.05.

• If the significance of linearity is > 0.05, H1 is rejected, it means that the regression is not linear.
• If the significance of linearity is < 0.05 then H0 is accepted, it means that the regression is linear.

Stages of Testing Regression Equations

The steps taken are Multiple Linear Regression Analysis, F Test, and t Test.

IV. RESEARCH RESULTS AND DISCUSSION

A. Overview of Research Results

An online questionnaire that has been distributed to 103 respondents produces answers.
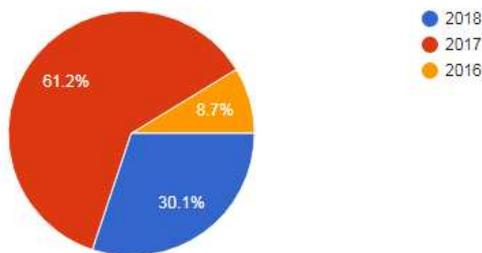

Figure 1. Graph of the number of respondents based on the year of graduation

B. Website Quality (X)

The quality of the website is measured in three dimensions, namely Usability, Information Quality, and Service Interaction.

C. Usability (X1)

Table 3. Usability Variable Distribution (X1)

No	Indicator	Score					Mean	Std Dev
		1 (%)	2 (%)	3 (%)	4 (%)	5 (%)		
1	I find the site easy to learn to operate (X11)	0	1,9	28,2	46,6	23,3	3,88	0,855
2	My interaction with the site is clear and understandable (X12)	0	1,9	28,2	50,5	19,4	3,84	0,826
3	I find the site easy to navigate (X13)	0	1,9	35,9	41,7	20,4	3,77	0,862
4	I find the site easy to use (X14)	0	0	24,3	50,5	25,2	3,97	0,806
5	The site has an attractive appearance (X15)	0	6,8	40,8	35,0	17,5	3,6	0,919
6	The design is appropriate to the type of site (X16)	0	7,8	42,7	35,0	16,5	3,55	0,923
7	The site conveys a sense of competency (X17)	0	2,9	35,0	39,8	22,3	3,78	0,892
8	The site creates a positive experience for me (X18)	0	4,9	23,3	45,6	26,2	3,89	0,913
		0	4	**32**	**43**	21	3,78	0,874

The table above shows that Usability values are in the score of 3 (Enough Agree) which is 32% and score 4 (Agree) is 43% (total 75%). This indicates that the SBMPTN website has good uses for visitors.

D. Information Quality (X2)

Table 4. Information Quality Variable Distribution (X2)

No	Indicator	Score					Mean	Std Dev
		1 (%)	2 (%)	3 (%)	4 (%)	5 (%)		
1	Provides accurate information (X21)	0	1,9	25,2	41,7	31,1	3,98	0,892
2	Provides believable information (X22)	0	0	17,5	41,7	40,8	4,19	0,837
3	Provides timely information (X23)	0	1,9	22,3	43,7	32,0	4,02	0,881
4	Provides relevant information (X24)	0	1,0	22,3	50,5	26,2	3,98	0,824
5	Provides easy to understand information i (X25)	0	1,0	29,1	46,6	23,3	3,88	0,840
6	Provides information at the right level of detail (X26)	0	5,8	31,1	41,7	21,4	3,75	0,922
7	Presents the information in an appropriate format (X27)	0	1,9	33,0	44,7	20,4	3,80	0,852
		0	2	26	**44**	**28**	3,94	0,864

The table above shows that the value of Information Quality is in the score of 4 (Agree) which is equal to 44% and score 5 (Strongly Agree) which is equal to 28%, resulting in a total of 72%. This indicates that the information displayed on the SBMPTN website tends to meet the needs of visitors. However, the quality of information needs to be further improved, seeing that the percentage produced is still not optimal.

E. Service Interaction (X3)

Table 5. Service Interaction Variable Distribution (X3)

No	Indicator	Score					Mean	Std Dev
		1 (%)	2 (%)	3 (%)	4 (%)	5 (%)		
1	Has a good reputation (X31)	1,0	5,8	37,9	35,0	20,4	3,64	0,965
2	It feels safe to complete transactions (X32)	0	1,9	27,2	45,6	25,2	3,90	0,865
3	My personal information feels secure (X33)	0	3,9	31,1	41,7	23,3	3,81	0,904
4	Creates a sense of personalization (X34)	0	1,0	31,1	40,8	27,2	3,90	0,876
5	Creates a sense of community (X35)	4,9	7,8	39,8	34,0	13,6	3,40	1,038
6	Makes it easy to communicate with the organization (X36)	0	3,9	41,7	35,9	18,4	3,65	0,890
7	I feel confident that goods/services will be delivered as promised (X37)	0	2,9	36,9	43,7	16,5	3,70	0,846
		1	4	**35**	**40**	21	3,72	0,912

The table above shows that the value of interaction quality is in the score 3 (Enough Agree) which is equal to 35% and score 4 (Agree) by 40% (total 75%). It indicates that websites tend to have good service interactions quality.

F. Customer Satisfaction (Y)

Table 6. Customer Satisfaction Variables Distribution (Y)

No	Indikator	Skor 1 (%)	2 (%)	3 (%)	4 (%)	5 (%)	Mean	Std Dev
1	Likes the display (Y11)	0	6,8	40,8	35,0	17,5	3,63	0,852
2	Likes the service (Y12)	0	0	24,3	50,5	25,2	4,01	0,707
3	Likes to trade (Y13)	0	1,9	27,2	45,6	25,2	3,94	0,777
4	Quick access (Y14)	1,0	5,8	37,9	35,0	20,4	3,68	0,899
5	Administrators are always online (Y15)	0	2,9	36,9	43,7	16,5	3,74	0,766
6	Information usefulness (Y16)	0	0	17,5	41,7	40,8	4,23	0,730
7	Can be accessed on my gadget (Y17)	0	7,8	42,7	33,0	16,5	3,58	0,858
		0	4	**32**	**41**	23	3,83	0,799

The table above shows that the value of customer satisfaction is at a score of 3 (Enough Agree) and a score of 4 (Agree), each with a percentage of 32% and 41% (total 73%). It indicates that visitors tend to be satisfied with the overall service of the SBMPTN website.

G. Validity Test

Validity test is done by using factor analysis data on each latent variable namely Usability (X1), Information Quality (X2), Service Interaction (X3), and Customer Satisfaction (Y). The results of each of these variables are shown below.

Table 7. Usability Validity Test Results (X1)

Item number	r count	r table	Information
X11	0,799	0,2528	Valid
X12	0,816	0,2528	Valid
X13	0,805	0,2528	Valid
X14	0,784	0,2528	Valid
X15	0,765	0,2528	Valid
X16	0,728	0,2528	Valid
X17	0,828	0,2528	Valid
X18	0,823	0,2528	Valid

The r count was obtained from calculations using the Pearson method, while r table was obtained from a list of tables r with a significance of 0.01 and a 2-way test. Because the value of r count > r table, it can be concluded that the items are valid. Similarly, the variables X2, X3, and Y, where the value of r count > r table, so it can be concluded that the items on all variables are valid.

H. Reliability Test

To find out the results of the reliability test, the Cronbach Alpha method was used.

Table 8. Usability Reliability Test Results (X1)

Case Processing Summary

		N	%
Cases	Valid	103	100,0
	Excluded[a]	0	0
	Total	103	100,0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
,915	8

Based on the results of the tests above, it is known that the Cronbach Alpha number is equal to 0.915, this value is greater than the minimum value of Cronbach Alpha 0.6. The same thing is true of other variables, where the value is greater than the minimum value of Cronbach Alpha. So it can be concluded that usability instruments are reliable or reliable.

I. Normality Test

The Probability Plot (P-P Plot) method is used to test the normality of the data to produce the following graph,

Figure 2. Output of P-P Plot Normality Chart

It can be seen that points follow and approach the diagonal line, which means that the residual value is normally distributed, so that the normalization requirements can be fulfilled.

J. F Test

It is known that F count (333.520) > F table (2.70) then H0 is rejected. So the conclusions are the usability, the quality of information, and the quality of interactions affect together on customer satisfaction.

K. t Test

In T test on usability variable, it is known that t count (7.192) > t table (1.987), then usability has a significant effect on customer satisfaction.

In T test on information quality variable, it is known that t count (3.766) > t table (1.987), then the quality of information has a significant effect on customer satisfaction

In T test on interaction quality variable, it is known that t count (6.437) > t table (1.987) then the service interaction quality has a significant effect on customer satisfaction.

L. Evaluation of the Quality of the SBMPTN Website

From the results of recapitulation of respondents answers that the distributed questionnaire data are reliable and valid, so that it can be used as a reference for workmanship. While the services and information displayed on the SBMPTN website are liked by visitors and very useful, and the information

displayed is up-to-date information so that it meets user expectations. While the appearance of the website is less attractive to visitors, it can be seen from the percentage of 'Simply Agree' that is greater than the choice others.

V. CONCLUSIONS & SUGGESTIONS

Conclusion

Based on the results of the research that has been done, it can be concluded that the quality of usability, the quality of information, and the quality of service interaction on the SBMPTN website has a very positive and significant effect on visitor satisfaction. So that in overall, improving the better quality of the website will increase visitor satisfaction.

Suggestion

Overall, the SBMPTN website received a good evaluation from the respondents, but there were a number of things that had to be further improved by the SBMPTN website manager, namely in terms of uses such as changing or redesigning the display of website (user interface and user experience) to make it more attractive, interactive, and responsive. So that besides being presented with complete information, visitors feel comfortable when accessing the SBMPTN website. In terms of interaction, it is multiplying more links to other important websites.

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