Website Quality Evaluation of PCNU Kota Depok Based on User Satisfaction Using WebQual 4.0

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INFORMATION

ABSTRACT

This study aims to analyze the quality of the PCNU Kota Depok online news website in relation to user satisfaction. The method used is WebQual 4.0, one of the techniques for measuring website quality based on user perceptions across four dimensions: usability, information quality, interaction quality, and overall impression. The results of the study, based on Crosstab and Chi-Square tests, indicate that differences in perception across attributes in the four dimensions are not entirely influenced by respondent characteristics such as education, gender, age, and occupation. According to user perceptions, the service quality of the PCNU Kota Depok website can be measured by the highest levels of satisfaction in the following order: Overall Impression (4.09), Information Quality (3.92), Usability (3.76), and Interaction Quality (3.61). These results provide valuable insights for improving user experience and guiding future development of the PCNU Kota Depok website.

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1.   INTRODUCTION

The development of information technology in the current digital era is very rapid, one of its products being the internet, which has been utilized for various needs, including as a medium for disseminating information through websites. Websites have advantages such as being accessible anytime and anywhere [1]. A website can display information on the internet, whether in the form of text, images, audio, or interactive videos, and has the advantage of linking one document to another (hypertext) accessed through a browser [2] News websites present journalistic works (news, articles, features, etc.) online, such as online newspapers or magazines[3]. Organizations often use online news websites, including the Branch Management of Nahdlatul Ulama (PCNU) Depok City, which has an online news site at www.pcnudepok.com. This site plays a role in enhancing the image and presence of NU in Depok City. The website serves as an information platform presenting information related to activities, programs, and policies of PCNU Depok, as well as other important information for members and the general public[4]. The PCNU Kota Depok website has become a comprehensive source of information for the community about the activities and developments in Depok City.

As a community-based religious organization, PCNU Kota Depok relies heavily on its website to communicate programs, values, and organizational initiatives to the public. However, without empirical

evaluation, it remains unclear whether the current website effectively meets the needs and expectations of its users. Therefore, it is necessary to measure the quality, and fundamentally, if users are increasingly satisfied with the quality of the website itself, they will find it easier to use [5]. Based on the above issues, it is necessary to measure the quality of the PCNU Kota Depok website to determine whether it is well-received or not using the WebQual 4.0 method[6]. The WebQual method is used to assess the quality of a website based on the perceptions of the community or users. The WebQual 4.0 method consists of four categories: usability, information quality, service interaction quality, and overall impression [7].

Several previous studies have been used as references for this research. Prior research has explained that measuring website quality using WebQual 4.0 was used to study the Nahdlatul Ulama website located at https://nu.or.id. The results obtained in the study of the Nu Online website were very good or very satisfactory [6]. The WebQual 4.0 method was also used to analyze the quality of the Bekasi City Social Service website, providing recommendations for local governments in developing quality websites, thus improving the e-government website's maturity level, stabilization, and ultimately reaching the level of utilization [8]. The level of user satisfaction regarding the quality of the Indosat Ooredoo website, using the WebQual 4.0 method, concluded that customers of the Indosat Ooredoo website were very satisfied [9]. As such, there is a noticeable gap in understanding how website quality is perceived by users within a religious organizational framework at the local level.

The WebQual 4.0 method offers a significant advantage by incorporating a user-centered approach to comprehensively evaluate website quality across four core dimensions: usability, information quality, service interaction quality, and overall impression [10]. This approach enables researchers to assess the user experience not only from a technical standpoint but also in terms of content functionality and satisfaction with the interactive services provided [11]. Using a Likert-scale instrument, WebQual 4.0 facilitates the quantification of user perceptions, which can be statistically analyzed to produce an objective overview of website performance [12]. Consequently, this method is well-suited for evaluating institutional, organizational, or public service websites that prioritize ease of access, the relevance and clarity of information, and effective user engagement. Based on the research findings, WebQual can be utilized to measure website quality, and this study uses the WebQual 4.0 method to fill the knowledge gap by analyzing user satisfaction regarding the quality of the PCNU Kota Depok website.

2.   METHOD

The WebQual method is a measurement method for website quality based on the perceptions of end users (the public) [13]. This method is an extension of Servqual and has evolved from WebQual 1.0, which focused on analyzing information quality but had shortcomings in service interaction [14]. Then, WebQual 2.0 emphasized analysis of interactions but lacked in analyzing information quality. The subsequent development, WebQual 3.0, emerged based on research from both WebQual 1.0 and WebQual 2.0, and further analysis of WebQual 3.0 led to the development of the WebQual 4.0 model [15]. WebQual 4.0 is structured based on research consisting of four area dimensions: usability, information quality, interaction quality, and overall impression [16].

1.   Usability
     This dimension reflects aspects of website design that affect ease of use by visitors. Elements considered include interface appearance, ease of navigation, user comfort, and clarity of structure and presentation of information displayed to users.
2.   Information Quality
     This aspect assesses the quality of content presented on the website based on the relevance and accuracy of information tailored to user needs. Factors such as data accuracy, presentation format, and information interrelation are the main indicators in measuring information quality.
3.   Service Interaction Quality
     This dimension refers to the quality of user experience when interacting with service features on the website. This includes aspects of trust and empathy felt by users, including issues such as security in transactions, personal data protection, effectiveness of product delivery, service personalization, and communication between users and site managers.
4.   Overall Impression
     This parameter measures the general impression users have of the overall experience when accessing the website. This assessment is subjective and includes users' perceptions of appearance, comfort, reliability, and overall quality of the site.

Webqual Questionnaire

Based on the questions posed to respondents in previous studies, the instrument for this research consists of three main dimensions: usability, information quality, interaction quality, and overall impression, as shown in Table 1.

Table 1. Webqual 4.0 dimension

Dimension		Webqual 4.0
Usability	1.	Is the PCNU Kota Depok website easy to operate?
	2.	Is it easy for users to interact within the website?
	3.	Is the PCNU Kota Depok website easy to navigate or find menus/links within the site?
	4.	Is the PCNU Kota Depok website easy to use?
	5.	Is the PCNU Kota Depok website attractive?
	6.	Does the design of the PCNU Kota Depok website match its theme?
	7.	Does the PCNU Kota Depok website contain useful information?
	8.	Does the PCNU Kota Depok website provide useful information?
Information Quality	9.	Does the PCNU Kota Depok website provide sufficiently clear information?
	10.	Does the PCNU Kota Depok website provide trustworthy information?
	11.	Does the PCNU Kota Depok website provide up-to-date information?
	12.	Does the PCNU Kota Depok website provide relevant information?
	13.	Is the information on the PCNU Kota Depok website easy to read and understand?
	14.	Does the PCNU Kota Depok website provide detailed enough information?
	15.	Is the information presented on the PCNU Kota Depok website in a sufficiently detailed format?
Service Interaction Quality	16.	Does the PCNU Kota Depok website have a good reputation?
	17.	Do users feel safe when performing activities on the PCNU Kota Depok website?
	18.	Do users feel secure when submitting personal data on this site?
	19.	Is visiting the PCNU Kota Depok website enjoyable or attractive to visitors?
	20.	Is there a community atmosphere, such as discussions or opinion exchanges, within this site?
	21.	Do users find it easy to give feedback to site developers through this site?
	22.	Does the PCNU Kota Depok website have a high level of trustworthiness regarding its provided information?
Overall Impression	23.	What is your overall opinion about using and accessing this site?

Data Collection Technique

The data collection technique is the most strategic step in research, as the main goal of the research is to obtain data [17]. In this study, the data collection technique used is a questionnaire with a series of written questions designed to gather information. The questionnaire employs closed questions with several alternative choices such as "strongly disagree," "disagree," "neutral," "agree," and "strongly agree" [18]. The measurement scale in the questionnaire uses the Likert Scale [18], with answer criteria and scoring weights as shown in Table 2 below.

Table 2. Likert scale

Code	Description	Score
SD	Strongly Disagree	1
D	Disagree	2
N	Neutral	3
A	Agree	4
SA	Strongly Agree	5

Sampling Technique

The population in this study uses a non-probability sampling technique. This type is chosen because the number of visitors to www.pcnudepok.com is unlimited. Meanwhile, the sample used is non-probability sampling, specifically purposive sampling, with a total of 150 respondents visiting the site [19].

Validity and Reliability Testing

The validity testing of the instrument is conducted to determine whether the measuring tool used truly measures what it is supposed to measure. In this study, the validity of items for measuring website quality is analyzed using SPSS version 20.0 IBM for Windows. The cutoff value used is 0.3; thus, items with a corrected item-total correlation value of less than 0.3 are considered invalid and eliminated, while items with values above 0.3 are declared valid. Meanwhile, the reliability of the instrument is tested using Cronbach's Alpha method with the same software. The reliability coefficient ranges from 0.00 to 1.00, where the closer to 1.00 indicates a higher level of reliability of the instrument [20].

3.   RESULTS AND DISCUSSION

In the results of the study measuring the quality of the PCNU Kota Depok website using the WebQual 4.0 method, a total of 150 respondents participated. The recapitulation of the respondents' answers regarding the quality of the website is as follows:

The average usability variable score is 3.75, indicating that the usability quality of the PCNU Kota Depok website, according to respondents, is very good/very satisfactory, as shown in Table 3.

Table 3. Respondents' answers regarding usability

No	Indicator	Frequency of Responses					Total	Mean
		1	2	3	4	5		
1	U01	1	3	28	83	35	150	3,98
2	U02	1	5	33	83	28	150	3,88
3	U03	2	6	34	85	23	150	3,80
4	U04	2	6	34	75	33	150	3,87
5	U05	3	23	61	45	18	150	3,34
6	U06	2	8	42	58	40	150	3,84
7	U07	2	16	52	61	19	150	3,52
8	U08	3	7	45	60	35	150	3,78

The average information quality variable score is 3.91, indicating that the quality of information provided by the PCNU Kota Depok website, according to respondents, is very good/very satisfactory.

Table 4. Respondents' answers regarding information quality

No	Indicator	Frequency of Responses					Total	Mean
		1	2	3	4	5		
1	IQ09	1	0	29	64	36	150	4,02
2	IQ10	1	0	35	72	42	150	4,02
3	IQ11	1	7	52	67	23	150	3,69
4	IQ12	1	1	31	90	27	150	3,94
5	IQ13	1	1	20	84	44	150	4,12
6	IQ14	1	10	44	74	21	150	3,69
7	IQ15	1	5	35	73	36	150	3,92

The average interaction quality variable score is 3.60, indicating that the interaction quality provided by the PCNU Kota Depok website, according to respondents, is very good/very satisfactory.

Table 5. Respondents' answers regarding service interaction quality

No	Indicator	Frequency of Responses					Total	Mean
		1	2	3	4	5		
1	SQ16	2	3	49	63	33	150	3,81
2	SQ17	2	7	57	60	24	150	3,64
3	SQ18	3	5	63	47	32	150	3,66
4	SQ19	6	28	67	37	22	150	3,27
5	SQ20	2	8	60	58	22	150	3,60
6	SQ21	2	10	61	61	16	150	3,52
7	SQ22	1	6	52	60	31	150	3,76

The average overall impression variable score is 4.09, indicating that the overall system provided by the PCNU Kota Depok website, according to respondents, is very good/very satisfactory.

Table 6. Respondents' answers regarding overall impression

No	Indicator	Frequency of Responses					Total	Mean
		1	2	3	4	5		
1	OI23	2	7	57	60	24	150	4,09

The validity test using the r-table cutoff at a significance level of 0.05 (5%) and a sample size of 150 respondents (N=150) yields an r-table value of 0.160. The results of the above tests indicate that all variables for the PCNU Kota Depok website have strong valid values and are "Very Reliable".

Table 7. Validity test

Variable	item	$r_{calculated}$	r_{table}	Correlation Strength	Decision
Usability	U01	.611	>0,160	Strength	All items are valid and reliable
	U02	.543	>0,160	Strength	
	U03	.617	>0,160	Strength	
	U04	.667	>0,160	Strength	
	U05	.614	>0,160	Strength	
	U06	.572	>0,160	Strength	
	U07	.596	>0,160	Strength	
	U08	.574	>0,160	Strength	
Information Quality	IQ09	.604	>0,160	Strength	All items are valid and reliable
	IQ10	.562	>0,160	Strength	
	IQ11	.599	>0,160	Strength	
	IQ12	.584	>0,160	Strength	
	IQ13	.668	>0,160	Strength	
	IQ14	.728	>0,160	Strength	
	IQ15	.731	>0,160	Strength	
Service Interaction Quality	SQ16	.612	>0,160	Strength	All items are valid and reliable
	SQ17	.661	>0,160	Strength	
	SQ18	.710	>0,160	Strength	
	SQ19	.510	>0,160	Strength	
	SQ20	.530	>0,160	Strength	
	SQ21	.657	>0,160	Strength	
	SQ22	.686	>0,160	Strength	
Overall Impression	OI23	.702	>0,160	Strength	All items are valid and reliable

The reliability test used in this study with the Cronbach Alpha method yielded a value greater than 0.6 ($\alpha \geq 0.6$). From the reliability measurement results where N=23 (number of questions), a Cronbach Alpha value of 0.940 was obtained, indicating that this research instrument meets the criteria to be declared reliable, as shown in Figure 1.

Case Processing Summary

		N	%
Cases	Valid	150	100.0
	Excluded[a]	0	.0
	Total	150	100.0

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

Reliability Statistics

Cronbach's Alpha	N of Items
.940	23

ANOVA

		Sum of Squares	df	Mean Square	F	Sig
Between People		1029.542	149	6.910		
Within People	Between Items	165.450	22	7.520	18.277	.000
	Residual	1348.811	3278	.411		
	Total	1514.261	3300	.459		
Total		2543.803	3449	.738		

Grand Mean = 3,7759

Figure 1. Results of research instrument reliability test

The research instrument used in this study consisted of 23 items based on the four dimensions of the WebQual 4.0 framework: usability, information quality, service interaction quality, and overall impression. The questionnaire was distributed to 150 respondents who were users of the PCNU Kota Depok website. The reliability test using Cronbach's Alpha produced a value of 0.940, which is considered to be in the "very high"

category. This indicates that all the items in the instrument demonstrate excellent internal consistency and can be reliably used to measure user perceptions of website quality. The ANOVA results show a significance value of 0.000 (< 0.05) with an F-value of 18.277, indicating a statistically significant difference among the items. This finding suggests that each item effectively represents different dimensions of the WebQual model, with no redundancy detected among the questions. Thus, the instrument is not only reliable but also capable of capturing the diversity of user perceptions across all aspects of website quality, from usability and information clarity to the quality of interactive services and overall impression.

4.   CONCLUSION

Based on the analysis results, this study concludes that from the respondents' results of the research test, the three WebQual 4.0 variables, namely Overall Impression (4.09), Information Quality (3.92), Usability (3.76), and Interaction Quality (3.61), were obtained. The quality of information on the PCNU page received the highest score in the Information Quality dimension with a score of 4.03, where the information provided by PCNU Kota Depok is accurate and trustworthy. Factors that need to be maintained are the Overall Impression and Information Quality dimensions. Meanwhile, improvements are needed in the Usability and Interaction Quality dimensions. Based on the analysis results from the conclusions above, several recommendations are suggested to assist the development of PCNU Kota Depok in the future, including enhancing the personal impression with end users, adding or improving website design/features, and improving communication within the organization on the website.

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