Evaluation of the Pesawaran Regency Government Website Using the Method Usability Testing

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Abstract— **The Development of information and communication technology plays an important role in the implementation of e-government. The goal is that governance involving government, the private sector and society can be created in such a way that it is effective, efficient, productive and responsive.**
Pesawaran regency is one of the regencies in Lampung Province that has implemented e-government through the website, with the address pesawarankab.go.id. This research draws on the Website Usability Evaluatio (WEBUSE) approach to evaluating usability on the website of the Pesawaran Regency Government with dimensions of Content, Organization and Readability, Navigation and Links, User Interface Design and Performance and Effectiveness. Website Usability Evaluation (WEBUSE) focuses on developing a web-based usability evaluation system with a subjective action approach involving user participation to provide an assessment of a website.
The development of the Website Usability Evaluation (WEBUSE) approach as a standard usability measurement, with a web-based questionnaire evaluation method that allows users to assess the usability of the website to be evaluated. The purpose of this research is to find out the level of Usability of the Pesawaran Regency Government website can provide optimal service to users.

Keywords—evaluation, website, webuse, pesawaran regency

I. INTRODUCTION

Advances in information and communication technology provide many benefits to humans. This progress occurred in various fields, ranging from education, military, economics, and medicine to government. In the field of government, the benefits obtained by users, whether they are individual users, groups, organizations, companies or agencies are the existence of e-government services. e-government based on

The World Bank Group (2001) in Kumorotomo (2009) is "E-Government refers to the use by government agencies of information technologies (such as Wide Area Network, the internet, and mobile computing) that have the ability to transform relations with citizens, business and other arms of government". From this definition, it can be seen that e-government refers to the use of information technology in government agencies or public institutions. The goal is that governance relationships involving the Government, the private sector and the community can be created in such a way that they are more effective, efficient, productive and responsive. The concept of e-government refers not only to the use of technology but also to the principle that the use of technology will make the system for determining policies and public services better and make the government more accountable to the community.

Pesawaran Regency is one of the regencies in Lampung province, Indonesia that has implemented e-government through the website, with the address https://pesawarankab.go.id/. Given its long existence, evaluation is needed to maximize its function. Based on Presidential Instruction No. 3 of 2003 which explains that in order to achieve good e-government governance, continuous evaluation is necessary.

In general, the success of developing a website can be measured based on usability. Usability refers to how users can learn and use a website to achieve its goals and how satisfied they are with its use. The level of usability determines whether the website is accepted by the user and used in the long term. So it is necessary to evaluate the usability of the website of the Bandung City Culture and Tourism Office to find out what improvements must be made to increase user satisfaction with the services provided by the website.

Therefore, we need an appropriate method to evaluate the usability of a website. By evaluating the usability of the website, we can determine the level of system quality and user satisfaction from the usability aspect. The method used is the Website Usability Evaluation tool (WEBUSE) method because this method covers all usability aspects of various

usability tool methods, namely WAMMI, webSAT, Bobby, and protocol analysis. The WEBUSE method is a method that can be used to evaluate the usability of a website to find out good and bad usability problems for various types of websites.

Website Usability Evaluation (WEBUSE) focuses on developing a web-based usability evaluation system with a subjective action approach that involves the participation of users to provide an assessment of a website. The development of the WEBUSE approach as a standard for measuring usability, with a web-based questionnaire evaluation method that allows users to assess the usability of the website to be evaluated (Chiew and Salim, 2003). This study refers to the WEBUSE approach to evaluate the usability of the Prabumulih City Government website with the dimensions of Content, Organization and Readibility, Navigation and Links, User Interface Design and Performance and Effeciveness.

II. RESEARCH METHODS

WEBUSE (Website Usability Evaluation) is a questionnaire developed for the usability development of a website. This questionnaire consists of 24 questions with five answer options which are divided into four dimensions.

A. Content, Organization and readability

Good content is content that is easy to understand by users, clear, and well organized. A well-organized website can provide a quick understanding for users according to Leavitt and Shneiderman (Marcus, 2011). Meanwhile, the readability of a website is measured through whether the system functions properly and provides accurate information (Baltzan and Phillips, 2009).

B. Navigation and Link

The method used to find and access information on a website effectively and efficiently to help website users is called Navigation. Meanwhile, links function to connect users by selecting and clicking on links on hypertext pages (homepages), which causes new pages to open. Good links should use text rather than graphics so that they are easily understood by users according to Leavitt and Shneiderman (Marcus, 2011).

C. Design User Interace

User interface design is a method and procedure that requires careful consideration when designing and developing websites. The important things in designing user interface design include setting goals, determining users and providing useful content. To ensure the best results, it is necessary to consider various user interface design issues and good performance for users according to Leavitt and Shneiderman (Marcus, 2011).

D. Performance and Effetiveness

Website performance can be measured by how fast a website carries out certain processes or transactions so as to produce fast and efficient user performance (Baltzan and

Phillips, 2009). Meanwhile, effectiveness is the success of a website in producing the right information for users according to Leavitt and Shneiderman (Marcus, 2011). From the WEBUSE questionnaire, there are values that can represent how well the level of usability of a website is. The value is divided into 5 value ranges, each value representing a good or bad level of usability. The merit value of the WEBUSE questionnaire can be seen in table 1 [11]. Meanwhile, the value of Usability point and corresponding usability tools can be seen in the table below:

TABLE 1. Usability Questionnaire Merit Value

Usability	Strongly Agree (SS)	Agree (S)	Neutral (B)	Do Not Agree (TS)	Strongly Disagree (STS)
Score	1.0	0.75	0.5	0.25	0

TABLE 2. Usability Point and Coresponding Usability Tools

Points	$0.8 \le x \le 1.0$	$0.6 \le x \le 0.8$	$0.4 \le x \le 0.6$	$0.2 \le x \le 0.4$	$0 \le x \le 0.2$
Score	Excellent	Good	Moderate	Poor	Bad

The average of each measurement indicator of importance (importance) and performance (performance) is calculated using the following formula:

$$x = \frac{[\sum(merit\ for\ each\ question\ of\ the\ category)]}{(number\ of\ questions)}$$

III. RESULT AND DISCUSSION

A. Characteristics of Respondents

Respondents in this study were determined by using a random sampling method where respondents were selected randomly, both those residing in Pesawaran Regency and outside Pesawaran Regency. According to Sugiyono (2010), the random sampling method is taking sample members from the population at random without regard to the existing strata in the population. The considerations of respondents in this study are as follows:

- People in Pesawaran Regancy
- People outside Pesawaran Regancy
- Have or are currently using the website of the Pesawaran Regency Government

Respondents used in this study amounted to 34 people. According to Roscoe quoted from Uma Sekaran, study sample sizes of more than 30 and less than 500 are appropriate for most studies. Thus, this study with a sample of 34 people can be carried out.

B. Creating Usability Testing Scenario Tasks

CreatinUsability measurement is carried out to assess whether the interaction between users and the application is going well. Measurements are carried out following the concept of user testing, with an emphasis on measurement and not testing. The purpose of this measurement is to identify usability problems that can affect system interaction with users. In accordance with these objectives, the measurement paradigm chosen is usability testing by

focusing on measuring user performance through the implementation of several tasks that have been prepared. The measurement technique chosen is user testing, where respondents are asked to carry out certain tasks Usability Testing Scenario Tasks.

C. Quistionnaire Making

The questionnaire is divided into 5 parts, which are as follows:
1. First part
   This sheet contains respondent information such as name, age, gender.
2. Second part
   The second sheet is a WEBUSE approach question with the dimensions of Content, Organization and Readability.
3. Third part
   The third sheet is a WEBUSE approach question with Navigation and Link dimensions.
4. Fourth part
   The third sheet is in the form of WEBUSE approach questions with User Interface Design dimensions.
5. Fifth part
   The third sheet is a WEBUSE approach question with the dimensions of Performance and Efficiency.

D. Usability Analysis

The results of the usability questionnaire have values that can represent how good the usability level of a website is. The value is divided into 5 value scales, each value representing the level of good or bad usability.

By using a questionnaire, the results of the usability value of each variable item are obtained.

The following are the details of respondents' answers

TABLE 3. Details of Usability Answers by Respondents

	SS	S	B	TS	STS
COR1	6	25	5	1	0
COR2	6	27	3	1	0
COR3	4	25	6	1	1
COR4	4	25	7	0	1
COR5	4	25	6	0	2
COR6	4	25	6	1	1
NAL1	5	27	5	0	1
NAL2	4	20	9	1	3
NAL3	5	19	12	0	1
NAL4	7	19	10	1	0
NAL5	5	20	8	3	1
NAL6	6	19	10	1	1
UID1	13	17	6	1	0
UID2	10	20	4	2	1
UID3	3	17	10	4	3
UID4	4	16	10	4	3
UID5	8	18	6	4	1
UID6	4	16	11	4	2

PAE1	6	15	11	3	2
PAE2	5	16	13	3	1
PAE3	6	13	14	3	1
PAE4	2	19	11	4	1
PAE5	4	20	11	2	0
PAE6	4	16	14	2	1

TABEL IV. Summary of Usability Calculation Results

No.	Variable Name	Score	Results
1	Content, Organisation And Readability	0,717	Good
2	Navigation and Links	0,691	Good
3	User Design Interface	0,667	Good
4	Performance and Effectiveness	0,641	Good

IV. CONCLUSION

Based on the results of research on the evaluation of the Pesawaran Regency Government Website with the Usability Testing Method, the following conclusions can be drawn:
1. The results of the calculation of each usability variable show that only the error variable can be categorized as moderate. So, it can be said that the usability of the website of the Pesawaran Regency Government is in a good category with an average value of 0.68 for all variables.
2. Based on the calculation of the gap analysis, the results of the website service quality show a positive value, which means that the service quality of the Pesawaran Regency Government website is in accordance with user expectations.

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