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Measuring Usability using USE Questionnaire in the MyTelkomsel Application

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ABSTRACT

The MyTelkomsel application is one of Indonesia's most popular cellular provider applications. Telkomsel established it to provide convenience for customers in managing their telecommunications services. As the MyTelkomsel application runs, few users complain about the shortcomings of the MyTelkomsel application features, which are considered less than optimal, such as a very long application response, an unsatisfactory UI display, and so on. Therefore, the author researched usability calculations on the MyTelkomsel application through the USE Questionnaire approach with the main focus on the five usability measurement criteria: Learnability, Efficiency, memorability, errors, and Satisfaction. This study used SPSS and Google Spreadsheets to analyze these variables, with 35 respondents. The results showed that the five criteria used in measuring Usability obtained results with a feasibility level for the Learnability aspect of 83.71%, Efficiency of 81.71%, and Satisfaction of 81.28% with a very feasible category. Memorability aspects amounted to 77.14%, and Errors amounted to 72%, with a decent category. The overall usability analysis results obtained a percentage value of 79.17% with a decent category.

Keywords: *Mobile Application, MyTelkomsel, Usability, USE Questionnaire.*

Introduction

Measurement is collecting data through empirical observation to gather information relevant to a predetermined goal [1]. In the context of Usability, measurement is an important step in evaluating the system's overall quality. This measurement process covers various aspects, from Usability and performance to user satisfaction. Not just collecting data, measurement also involves analyzing areas that need fixing or improving Usability.

Usability relates to how users can learn and utilize a product to achieve their goals and how satisfied they are with it. Usability is characterized through 5 quality components: Learnability, Efficiency, Memorability, Error, and Satisfaction [2]. Various methods can be used to measure Usability, including the USE Questionnaire.

USE Questionnaire is an evaluation tool used to measure the Usability of a product or system [3], including mobile applications, using questions that will be made in the form of a questionnaire. The USE Questionnaire provides a detailed structure for evaluating the overall user experience by focusing on five aspects of usability quality. First, Learnability measures the ease with which users can learn the system. Efficiency measures how rapidly and effictively users can total errands tasks with the product. Memorability refers to how quickly customers can remember how to utilize a product after extended use. Errors measure how often and how severe the mistakes made by users are when using the product. Finally, Satisfaction measures user satisfaction with the overall user experience of the product [2]. By collecting user data through a questionnaire compiled based on the USE Questionnaire framework, this research will explore the user experience of the MyTelkomsel application.

MyTelkomsel is the official mobile application of Telkomsel, a telecommunications operator in Indonesia. MyTelkomsel is here to provide convenience for customers in managing their telecommunication services. The MyTelkomsel application can be downloaded for free from Google Play and the App Store. Currently (3/6/2024), the rating of MyTelkomsel App on Google Play Store is 4.0 out of 5 and has been reviewed by 10.3 million users. User reviews on the Google Play platform highlighted some shortcomings regarding the user experience of using the MyTelkomsel app. Some users commented that the app's response time was very long and found it difficult to purchase internet packages.

Referring to previous research conducted by Pramono, Zahra, and Rokhmawati in 2019 [4], it is well understood that usability measurement is a key part of the creation and evaluation of mobile applications, partucalarly the MyTelkomsel application. They used the System Usability Scale (SUS) as a usability measurement method, focusing on the ease with which users can operate the MyTelkomsel application system. However, in this study, there is a novelty in the approach taken by researchers in evaluating the Usability of the MyTelkomsel application. Researchers used the USE Questionnaire method, allowing for a more comprehensive evaluation of the five usability criteria: Learnability, Efficiency, memorability, errors, and Satisfaction.

Based on this background, the research problem raised is how the usability evaluation of the MyTelkomsel application can be carried out using the USE Questionnaire method and how far this application can meet the expectations and needs of its users.

This study aims to gain a deeper understanding of how users experience and interact with the MyTelkomsel application, as well as the extent to which this application can meet their needs and expectations. It can also help to identify the weaknesses and strengths of the MyTelkomsel application.

Research Methods

Questionnaire

At this stage, the researcher gave the questionnaire to the respondents using Google Forms and distributed it online. The questionnaire contains fifteen statements. Each statement will be accompanied by answer options using a Likert scale ranging from 1 (one) to 5 (five).

Research Sample

The criteria for respondents to fill out this questionnaire are groups or groups of individuals who use the MyTelkomsel application. The number of respondents involved in this study was 35 (thirty-five), consisting of workers, students, and college students.

Collection Method

The primary data collection method was distributing questionnaires through WhatsApp groups to obtain data. The scale of likert is used to measure a person's attitudes, views, and perceptions of social issues (Bahrun et al. 2017). The left end describes the negative answer, and the right end represents the positive answer. Data regarding the dimensions of the variables investigated in this study were supplied to respondents on a scale of 1 (one) to 5 (five) resulting in ordinal data and ga score.

Table 1. Value Table

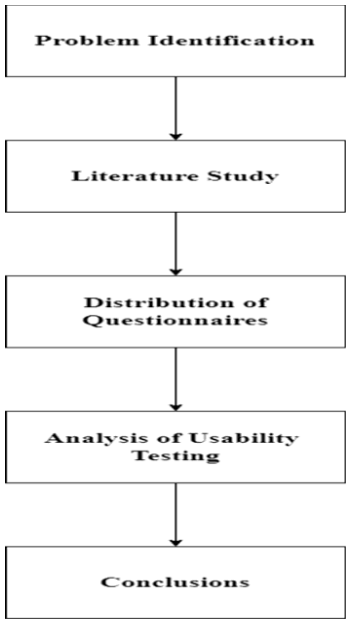
	STS	TS	CS	S	SS
Value	1	2	3	4	5

Description:

STS = Strongly Disagree
TS = Disagree
= Moderately Agree
S = Agree
SS = Totally Agree CS

Research Methods

The first stage is to identify the problem, followed by a literature review on usability testing and the item under consideration, specifically the MyTelkomsel application. Figure 1 shows the research approach clearly.



Results and Discussion

Usability Testing

The initial step in usability testing is to give a number of questionnaires that have been prepared previously to the respondents containing 15 (fifteen) statements that already represent the five aspects of Usability, namely Learnability, Efficiency, Memorability, Errors, and Satisfaction. Table 2 below shows the form of the questionnaire statement.

Table 2 Questionnaire Statements

No	Statements	Usability Aspect				
		Learn	Efficient	Memory	Error	Satifac
1.	I rarely experience technical errors or glitches when using MyTelkomsel App.					
2.	I feel that the system in MyTelkomsel App is stable and reliable in my daily use.					
3.	I easily understand the features in MyTelkomsel App.					
4.	The features in the MyTelkomsel app work well and as expected.					
5.	I found that the MyTelkomsel app has an organized and easy-to-understand layout (design).					

6.	I feel that the information presented in the MyTelkomsel application is easy to understand and useful for me.				
7.	I find it easy to find help or guidance if I experience difficulties when using the MyTelkomsel app.				
8.	I feel comfortable using the features in the MyTelkomsel app.				
9.	I feel confident and easy to use the MyTelkomsel app without help from others.				
10.	I can remember the appearance and functions in MyTelkomsel App, even though I haven't used it for a long time.				
11.	I feel satisfied with my interaction with the various interface elements in the MyTelkomsel app (buttons, menus, etc.).				
12.	I feel that I can easily find the menus and features I need in the MyTelkomsel app.				
13.	MyTelkomsel App responds quickly to any action or command I give.				
14.	I feel that the design of the MyTelkomsel application is easy to understand and can be understood immediately.				
15.	I can make payment transactions on MyTelkomsel App easily.				

Questionnaire Validity Test

The validity test was performed to confirm that the questionnaire used to measure the study variables was of high quality and reliable in measuring the desired variables or constructs. The

questionnaire is said to be valid if it can represent or measure what is to be measured.

The validity test to be measured is the Pearson bivariate correlation, and the r table has a 5% significance. The validity test will use 35 respondent, resulting in a r table value of 0.3338. If the r count exceeds the r table value, the mearusing instrument is considered legitimate; alternatively, if the r count is less than the r table value, the measuring instrument is concidered invalid. Table 3 shows the results of the questionnaire validity test.

Table 3. Questionnaire Validity Test Results

Question No.	Result of R count	Description
1	0.605	valid
2	0.803	valid
3	0.754	valid
4	0.774	valid
5	0.812	valid
6	0.843	valid
7	0.826	valid
8	0.894	valid
9	0.692	valid
10	0.710	valid
11	0.800	valid
12	0.831	valid
13	0.754	valid
14	0.885	valid
15	0.617	valid

According to Table 3, the outcomes of the questionnaire assessment indicate that all 15 assertions on the questionnaire are declared valid.

Questionnaire Reliability Test

The reliability test determines whether the measuring instrument's consistency is dependable and remains constant even after repeated measurements. In addition, a reliability calculation is performed to determine whether the responses provided by respondents may be used for further processing. The category for determining high and low dependability is as follows: if the alpha value is greater than 0.90, the reliability is flawless. If alpha is between 0.70 and 0.90, it indicates strong reliability. If alpha is 0.50 - 0.70, the dependability is modest. If alpha is less than 0.50, it indicates low reliability. This indicates that one or more items may be unreliable.

Table 4 shows the results of Croanbach's Alpha coefficient calculations using SPSS.

Table 4 Reliability Test Results

Croanbach's Alpha	N of Items
.951	15

Reliability testing was carried out using all answers from 15 valid statements and resulted in an alpha value of 0.951, which can also be interpreted when viewed from the level of reliability; the value of 0.951 is in the alpha range> 0.90 and can be interpreted that the reliability of the questionnaire is at a perfect level. Thus, it can be concluded that the components and answers are reliable for data processing because they meet the criteria.

Usability Testing Analysis

The data obtained from the questionnaire was analyzed using descriptive percentage techniques. The calculation of the usability level using the USE Questionnaire uses the following equation:

$$Pk(100\%) = \frac{s \times y \times d}{s \times y \times ha} \; X \; 100\% =$$

$$\frac{usability\ measurement\ score}{maximum\ usability\ score} \; X \; 100\%$$

Description:
Pk(%) : Usability rate in percent s
: Scale score
y : Total number of questions
d : Total number of respondents ha
: Maximum amount

With system feasibility standards as listed in Table 5 below:

Table 5 System Feasibility Standards

Number(%)	Classification
<21	Highly Inappropriate
21-40	Not Feasible
41-60	Simply
61-80	Worth
81-100	Very Feasible

Usability is measured by measuring the percentage of answers from all respondents. The usability evaluation focuses on five factors: Learnability, Efficiency, Memorability, Errors, and Satisfaction. Table 6 displays the findings of testing the five aspects of usability.

Table 6 Measurement Results of Usability Aspects

No	Usability Aspect	Max Score	Respondent Score	(%)
1	Learnability	700	586	83.71
2	Efficiency	586	429	81.71
3	Memorability	83.71	405	77.14
4	Errors	525	126	72
5	Satisfaction	429	569	81.28
	Total	2625	2115	79.17

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Based on the results of data analysis obtained from Table 6, the overall percentage of the five aspects of
Usability, namely Learnability, Efficiency, Memorability, Errors, and Satisfaction, is 83.71%, 81.71%, 77.14%, 72%, 81.28%, and with an overall percentage of 79.17%.

Judging from the measurement results listed in Table 6, when compared with the system feasibility standards listed in Table 5, the MyTelkomsel application has very feasible aspects of Learnability, Efficiency, and Satisfaction. Meanwhile, the Memorability and Error aspects of the MyTelkomsel application get decent criteria.

Conclusion

The measurement results show the overall level of the five aspects of Usability, namely Learnability, Efficiency, memory, errors, and Satisfaction. From the data obtained, it is concluded that the MyTelkomsel application has a fairly good performance in the learnability aspect, with a percentage of 83.71%, which indicates the level of ease users have in learning the application. In addition, Efficiency also shows satisfactory results, with a percentage of 81.71%, indicating that users can complete tasks efficiently when using the application. However, in the Memorability and Errors aspects, the app still requires improvement as the percentages are 77.14% and 72%, respectively, indicating that the user's ability to remember how to use the app and the error rate that occurs can still be improved. However, the Satisfaction aspect shows good results, with a percentage of 81.28%, indicating that users tend to be satisfied with the app usage experience.

As a suggestion, the MyTelkomsel application development company can focus on improving the Memorability and Error aspects by conducting an in-depth evaluation of frequent error patterns in features or guides that make it easier for users to remember how to use the application.

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