College Student's Perception toward "Peduli Lindungi" Application through the Usability Scale Method

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Article Information	ABSTRACT
	The Covid-19 pandemic that happened in Indonesia had some impact on various sectors such as education, health, and the economy. These impacts provide enormous losses for the community as well as the government. The government has issued many policy instruments to suppress the impact caused by the Covid-19 pandemic. One of the policies made by the government as a form of dealing with the Covid-19 pandemic is to create an application that functions as a tool for tracking people's movements. This government-made application is called the Peduli Lindungi application. The Ministry of Communication and Informatics develops the Peduli Lindungi application, the National Disaster Management Agency (BNPB), the Ministry of SOEs, and the Ministry of Health. At first, the Care for Protect application was named TraceTogether. The Peduli Lindungi application's primary function is to digitally detect and identify location data and community information in supervising the handling of Covid-19. This Peduli Lindungi application is used at almost all levels of Indonesian society, including students. Students who incidentally are the generation who are familiar with the application are expected to be able to use the Care Protect application quickly. Still, it is necessary to measure the system's feasibility to find out students' views on the feasibility of the existing system in the Care Protect application. This study uses quantitative methods with the System Usability Scale (SUS) method for data analysis. Of the 73 respondents who took part in the survey, all of whom are application users and students, it is known that the usability of the Peduli Lindungiapplication in the eyes of students is still not good.

1. INTRODUCTION

The Covid-19 pandemic is an emergency from the spread of the disease originating from the Coronavirus. This disease has early symptoms like the flu in general, but this disease can take human lives [3]. For more than 2 (two) years, the Covid-19 pandemic has occurred in Indonesia and has impacted various fields such as education, health, and the economy. This impact certainly provides a massive loss for the community and the government. The government has issued many policy instruments to reduce the impact caused by the deployment of Covid-19. The policy contains important information that must be accordingly communicated and disseminated, so there are no mistakes in its delivery. With the presence of the internet that facilitates human information needs [4], information about Covid-19 will be conveyed quickly and accurately so that it will be able to slow down the spread of the Covid-19 virus.

According to law number 24 of 2007 concerning disaster management, this nation's plan is essential in preparing all potential in the face of a disaster[5]. One of the policies carried out by the government as a form of countermeasure against the progressively wide deployment of the COVID-19 pandemic is the creation of the Peduli Lindungi application. The Peduli Lindungi application is designed as a form of government policy specifically used to tackle the spread of Covid-19 [1]. The Ministry of Communication and Informatics, the Ministry of Health, the Ministry of SOEs, and the National Disaster Management Agency (BNPB) developed the Peduli Lindungi application. Initially, the Peduli Lindungi application was named TraceTogether. The Peduli Lindungi application can detect and identify location data and community information digitally to assist the government in supervising the handling of Covid-19 [2]. This Peduli Lindungi application is used by almost all levels of Indonesian society, including students. Students who incidentally are the generation who are familiar with the application are expected to be able to easily use the Care Protect application but it is necessary to measure the feasibility of the system to find out students' views on the feasibility of the existing system in the Care Protect application.

According to Joseph Dumas and Janice Redish (1999), Usability has reference rules for how users can operate applications to satisfy and achieve goals in specific contexts [6]. Usability testing is necessary to determine the application's usability level or value. By knowing the level or value of usability, an application will quickly determine how easy it is for users to use its interface. An application is said to be valid if it has functions that can be run effectively, efficiently, and satisfactorily [7], [8]. Testing can be done with various methods so that it can be seen how much usability value and user needs to improve the quality and effectiveness of the application [9].

Pramono et al. conducted a usability test on the My Telkomsel application because there were 60 thousand of users who felt the application was very lacking and gave a rating

of 1. The test was carried out using a task scenario, interviews, and questionnaires. The questionnaire stage uses the System Usability Scale (SUS) method by distributing ten questions to respondents. The results obtained for the criteria of learnability, memorability, efficiency, and satisfaction showed better results for the application [8]. Rahmasari et al. conducted a usability study on the Canva application. This research aims to find out the experience of Canva application users due to dissatisfaction. The method used is Important Performance Analysis (IPA) to measure user experience with Canva applications. As a result, the Canva application still needs to be improved if there are errors in ease of access and user satisfaction. Canva applications also need to improve flow and time accuracy when used.

The System Usability Scale (SUS) is used because reliable measurements are needed to determine if a system can be used easily. In this study, usability tests were carried out on the Peduli Lindungi application to find out how great the user experience was when the application was used. The application's appearance on mobile is crucial to building a positive image in the eyes of the user so that it can provide confidence and create a pleasant atmosphere for the user [10]. In addition, this test also involves users who are directly involved in using the Peduli Lindungi application, namely students.

Usability

An essential part of user experience (UX) is usability [11], so usability and user experience are different [12][13]. Usability is important because it can measure the usability of the product when the product is used [14] easily and effectively [15]. Usability is important because when users cannot use a product properly or cannot achieve what they want, they will look for other things as solutions. When this happens, the user experience will be wrong, and the possibility of the user to another product will be greater.

According to the ISO 9241-11 standard, usability can be measured from several components: effectiveness, efficiency, and satisfaction. In contrast, according to Nielsen, usability can be measured by Learnability, Efficiency, Memorability, Error, and Satisfaction [7]. These standards are used to find out how users adapt and evaluate a product. The characteristics of usable products, in line with the UX (user experience) and Usability Expert and ex-President of the Usability Professionals' Association (UXPA), are [16]

a. Effectiveness
   Effectiveness relates to how users can solve problems using the product with high accuracy.
b. Efficiency
   In usability efficiency, it is related to the time users spend completing their occasions when using a product.
c. Engagement
   Engagement is all about aesthetics, not just looking good. Good composition, layout, colors, and fonts can make it easier for users to navigate when using a product.

d. Error Tolerance

Users will find the error rate is low or may not exist when using the product. If an error occurs, the user can still efficiently fix the existing error. Error Tolerance also includes the ability for users to make mistakes when using the product, providing an opportunity to undo when an error occurs, and support facilities when users cannot solve the error problems they face when using a product.

e. Ease of Learning

The product can be used easily by users. The ease of using this product is what will bring users back. In addition, users also get convenience when learning new features.

Usability tests must be done to determine whether a product has good usability. Initially, the evaluation was based on expert opinion and physical appearance and did not involve user experience such as Post-occupancy evaluations (POEs) [17]. After that, the method for measuring the usability of a product continues to develop so that testing can be carried out in qualitative or quantitative methods.

2. RESEARCH METHOD

In this study, researchers used quantitative methods. Quantitative research will help researchers see what happened to the product's usability, in this case, the Peduli Lindungi application. The data used is survey data using the Peduli Lindungiapplication. In this research, the usability testing method, System Usability Scale (SUS), is used to calculate the usability percentage of the application. The stages in SUS begin by giving ten questions [18]. In researching the Peduli Lindungi application, we asked the following questions:

1. I think I will use this (Peduli Lindungi) Application a lot.
2. I find this (Peduli Lindungi) app uncomplicated.
3. I think this application (Peduli Lindungi) is easy-to-use.
4. I feel I will need support to use this (Peduli Lindungi) application.
5. I found all kinds of functions on the application site (Peduli Lindungi) well integrated.
6. I think there are too many inconsistencies in this (Peduli Lindungi) application.
7. I visualize most people will learn to use this application site (Peduli Lindungi) very quickly.
8. I find this (Peduli Lindungi) app site very cumbersome/awkward to use
9. I feel very confident using this (Peduli Lindungi) application.
10. I need to learn many things before I can start using this (Peduli Lindungi) application.

Each question has five answer options. Each answer to each question has a different value on a level of 1 – 5. Number 1 = strongly disagree, and number 5 strongly agree, as shown in Table 1.

Table 1. Table of answer choices using the SUS method

Strongly disagree				Strongly agree
1	2	3	4	5
○	○	○	○	○

Values 1 to 5 have a scale of 0 – 4, so a scale of 0 is for the most negative response, while a scale of 4 is for the most positive response. In the SUS method, the calculation of the value scale is as follows:

1. Questions with odd question numbers (1, 3, 5, 7, 9): the value given by the respondent is reduced by 1.

2. Questions with even question numbers (2, 4, 6, 8, 10): the number 5 will be reduced by the value given by the respondent.

3. The amount obtained in points 1 and 2 is multiplied by 2.5. The results obtained will be in the range of 0-100.

The range of values obtained previously can be represented in letters [19], [20], as shown in Table 2. While Figure 1 shows the amount of patchouli distribution in a graph.

Table 2. Table of conversion of values to letters in the SUS method

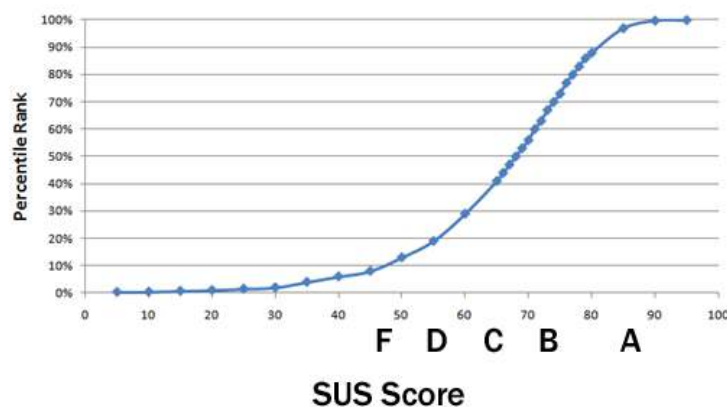|	
F	≤ 51
D	52-67
C	68-73
B	74-80
A	≥ 80,3.

Figure 1. The percentage level and value of SUS

The stages carried out in research are divided into three stages which can be seen in Figure 2.

Figure 2. Research Stages

1. Initial Stage.

   The initial stage is filled with the preparation of researchers to collect data.

   a. Respondents were selected from focus groups or "convenience" sampling. The respondents are students. In the survey, the authors include 73 students as respondents. All of them have installed and frequently use the Cares Protect application.

   b. Before filling out, the questionnaire, respondents were asked to do several things.
      1. Open the Care Protect app
      2. Scan the code
      3. Unlock vaccine certificate
      4. Open the profile menu
      5. Doing EHAC pengisian

2. Data collection stage.

   Data collection was done for approximately two weeks by distributing questionnaires through student groups.

3. Final stage.

   The author performs several stages in the final stage,

      a. Collecting data.
      b. Calculating the data obtained by SUS analysis.
      c. Make conclusions from the analysis obtained.

3. RESULTS AND DISCUSSION

3.1. Questionnaire Results

When collecting data, the researcher also asked for respondents' comments about the Peduli Lindungi application. From the questions, the researcher knows that the respondents have varied opinions. 31% of respondents declare that Peduli Lindungi is complicated to use. Furthermore, 21% of respondents think the Peduli Lindungi application helps track community movements. 22% feel that the Peduli Protect application is easy to

use and 22% of respondents have a favorable view of the Peduli Protect application. 3% of respondents choose not to give an opinion on the questions.

3.2. System Usability Scale (SUS)

Respondents assessed running the Peduli Lindungi application. The author then processes the values obtained using the SUS method, as shown in Table 3. The results given by the respondents varied.

Table 3. SUS results table

No	Score Result Count (Sample Data)										Amount	Value
	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10		(value x 2.5)
1	4	0	4	0	4	0	4	0	4	0	20	50
2	4	0	4	4	4	2	2	4	4	2	30	75
3	2	2	2	2	2	2	2	2	2	2	20	50
4	3	0	3	2	2	1	3	3	3	2	22	55
5	1	1	1	4	1	3	2	3	3	3	22	55
6	3	0	4	3	3	1	3	3	4	4	28	70
7	3	3	3	1	3	1	3	2	3	1	23	58
8	1	1	3	4	3	0	3	3	3	2	23	58
9	2	2	3	2	3	2	2	2	4	3	25	63
10	4	1	3	3	3	3	2	2	3	3	27	68
11	2	0	3	3	3	2	4	3	4	4	28	70
12	3	2	2	3	2	2	2	2	2	2	22	55
13	2	0	4	2	2	1	3	4	4	2	24	60
14	0	2	2	3	0	0	4	2	3	0	16	40
15	2	2	1	3	1	1	1	1	2	2	16	40
16	3	1	4	3	2	3	3	3	3	2	27	68
17	2	1	3	3	1	2	3	3	3	2	23	58
18	3	1	3	3	3	2	2	2	2	2	23	58
19	2	2	3	2	2	2	3	3	2	3	24	60
20	3	2	2	1	1	1	1	2	2	3	18	45
21	4	1	4	3	4	1	4	3	4	3	31	78
22	4	0	4	2	4	2	3	3	2	2	26	65
23	3	2	2	4	4	1	3	2	2	3	26	65
24	2	1	4	3	3	1	4	3	3	2	26	65
25	1	1	3	3	3	0	4	3	4	3	25	63
26	2	0	4	2	3	2	3	4	3	0	23	58
27	1	3	1	2	1	1	1	1	2	2	15	38

No	Score Result Count (Sample Data)										Amount	Value
	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10		(value x 2.5)
28	2	0	4	0	2	2	2	4	4	4	24	60
29	3	2	3	3	3	2	3	3	3	3	28	70
30	3	1	3	4	1	1	3	3	4	3	26	65
31	2	0	4	2	2	1	2	3	2	2	20	50
32	3	3	3	1	1	4	1	2	3	3	24	60
33	4	2	3	3	3	1	2	3	3	1	25	63
34	2	1	3	3	2	2	2	3	3	3	24	60
35	2	0	3	4	3	3	3	4	3	3	28	70
36	4	0	4	3	4	2	3	3	4	2	29	73
37	4	0	3	3	4	3	3	3	4	1	28	70
38	4	0	4	0	4	0	4	0	4	0	20	50
39	2	3	2	2	1	1	2	2	3	1	19	48
40	3	2	2	2	3	2	3	3	3	2	25	63
41	3	2	4	4	4	1	4	1	4	4	31	78
42	4	1	3	2	4	1	4	1	4	1	25	63
43	2	1	3	2	3	2	2	3	3	2	23	58
44	3	1	4	0	2	2	3	2	4	0	21	53
45	2	3	2	3	2	2	2	3	2	3	24	60
46	2	2	3	0	4	0	4	1	4	0	20	50
47	2	1	3	3	1	1	2	2	3	2	20	50
48	2	2	2	2	2	2	2	2	2	2	20	50
49	2	1	3	4	3	2	2	3	3	3	26	65
50	4	1	4	0	4	1	2	3	3	1	23	58
51	4	2	3	0	3	1	3	2	4	1	23	58
52	3	0	4	4	4	2	4	4	4	3	32	80
53	2	1	4	3	3	2	3	3	3	3	27	68
54	2	2	3	3	3	2	2	2	3	2	24	60
55	2	1	3	3	3	3	1	3	2	2	23	58
56	2	1	3	3	3	3	3	3	3	3	27	68
57	3	1	3	4	3	1	3	2	3	4	27	68
58	3	1	3	0	3	2	2	3	4	0	21	53
59	4	1	3	4	3	2	4	4	4	4	33	83
60	4	1	4	1	3	1	4	3	4	0	25	63
61	3	1	3	1	3	1	3	1	3	0	19	48
62	2	1	3	3	2	2	0	2	3	2	20	50
63	3	2	3	2	3	0	3	3	2	2	23	58

No	Score Result Count (Sample Data)										Amount	Value
	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10		(value x 2.5)
64	2	2	2	3	3	1	2	1	2	2	20	50
65	2	1	3	3	3	2	2	3	3	3	25	63
66	1	3	3	2	0	0	3	2	2	1	17	43
67	2	0	4	4	4	1	2	3	2	3	25	63
68	3	1	3	3	3	2	4	3	3	3	28	70
69	3	1	3	0	4	1	4	2	4	3	25	63
70	3	1	3	3	2	1	2	1	3	3	22	55
71	2	0	4	2	3	0	4	2	2	0	19	48
72	3	2	2	4	1	1	3	2	2	1	21	53
73	2	1	3	2	3	1	2	1	2	1	18	45
Skor Rata-rata (Hasil Akhir)												**59**

From the data in table 3, the result from Q1 question 1.4% of respondents strongly disagree with using the Peduli Lindungi application a lot, and 19.2% strongly agree with using the Peduli Lindungi application. From the Q2 question, zero respondents strongly disagree that the Peduli Lindungi application is uncomplicated, and 42.65% agree that the Peduli Lindungi application is uncomplicated. Q3 result shows that 0% strongly disagree that the application is easy-to-use and 28.8% strongly agree that it is easy to use. Q4 result shows that 17.8% strongly disagree that they will need support to use the Peduli Lindungi application and 12.3% strongly agree with that question. From Q5, 2.7% of respondents strongly disagree that all kinds of functions on the Peduli Lindungi are well integrated, and 20.5% strongly agree. Q6 results show that 1.14% of respondents disagree that there are too many inconsistencies in the Peduli Lindungi application, but 12.3% strongly agree. Q7 visualizes that most people will learn to use the Peduli Lindungi application very quickly, and the results are 1.4% strongly disagree and 21.9% strongly agree. Q8 result shows that 9.6% disagree and 2.7% strongly agree that the Peduli Lindungi app site is very cumbersome/awkward to use. Q9 result about respondents feeling very confident using the Peduli Lindungi application shows that there are no respondents who strongly disagree, and 31.5% strongly agree. From Q10, the last question, the respondent shows that respondent needs to learn many things before respondent can start using the Peduli Lindungi application. 8.2% strongly disagree about the question, and 13.7% strongly agree.

5 SUS categories range from F to A. The distribution of SUS values per respondent can be seen in Figure 3. Sequentially, it can be seen that there are 1% of respondents have an A value, 6% of respondents have a B value, 16 % of respondents have a value of C, 52% of respondents have a value of D, and 25% of respondents have a value of F. A value can be interpreted that respondents feel that the Peduli Lindungi application has outstanding usability. A value of B means that the Peduli Lindungi application has a good usability

value. C means it has good enough usability. D means Not Good Enough, and F means Not Good Enough.
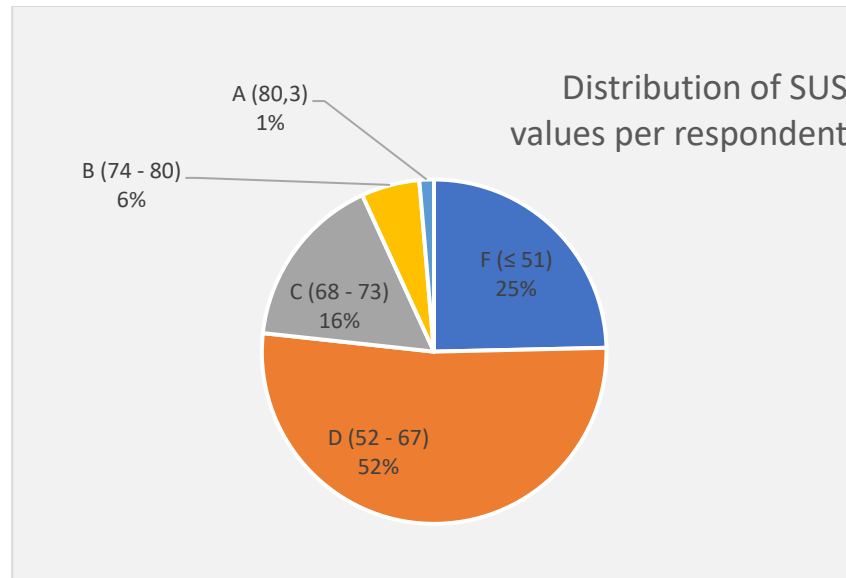

Figure 3. Distribution of SUS values per respondent

The overall SUS score has an average score of 59. When viewed using the SUS conversion table, 59 is in the D value with a range of numbers 52-67.

4. CONCLUSION

After doing the calculations by the researcher, it was found that the results of the SUS calculation will be more varied when the distribution of values is grouped per respondent. The variations obtained are pretty diverse, ranging from 1% of respondents who feel the Peduli Lindungi is entirely reasonable to 25% of respondents who feel the usability of the Peduli Lindungi application is quite good. Meanwhile, if it is calculated based on all respondents, the usability of the Peduli Lindungi application still has a D value, which means usability is still not good.

The results above differ slightly from the respondents' answers to questions who stated that the Peduli Lindungi application is easy to use and is good enough for an application. It is still unknown why there is a difference between the answers given descriptively and the results of usability calculations using the SUS method. Research using different methods can be done to get these answers.

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