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Usability Analysis on the My Panin Mobile Banking App Using the System Usability Scale (SUS)

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***Abstract*— This study aims to determine the ease of use of the My Panin mobile banking application using the System Usability Scale (SUS) method. A quantitative research methodology was employed, with questionnaires distributed to users of the My Panin mobile banking application. The study yielded an SUS score of 79.89. On the grade scale, this score falls into "Grade B," which is considered good as it is above average. The adjectives rating indicates that the usability of the My Panin mobile banking application is "Good." Regarding acceptability, the application is well-suited for use by the respondents. Furthermore, the Net Promoter Score (NPS) places the application in the "promoter" category, suggesting that respondents are highly likely to recommend the My Panin mobile banking application to others.**

Keywords— System Usability Scale, My Panin Mobile Banking Application

***Intisari*— Penelitian ini bertujuan mengetahui tingkat kemudahan penggunaan Aplikasi Mobile Banking My Panin dengan metode System Usability Scale (SUS). Metodologi yang digunakan dalam penelitian ini metode kuantitatif. Kuesioner yang disebarkan kepada pengguna Aplikasi Mobile Banking My Panin. Penelitian ini menghasilkan skor SUS sebesar 79.89 yang didapat dari pengguna Aplikasi Mobile Banking My Panin. Pada Grade Scale skor SUS berada dalam Grade B yang tergolong baik. Pada Adjectives Rating menunjukkan bahwa penggunaan Aplikasi Mobile Banking My Panin tergolong baik. Pada Acceptability penggunaan Aplikasi Mobile Banking My Panin dapat digunakan secara baik oleh responden. Pada Net Promoter Score (NPS) berada dalam kategori promoter dimana responden kemungkinan besar akan mempromosikan Aplikasi Mobile Banking My Panin kepada orang lain.**

Kata kunci— System Usability Scale, Aplikasi Mobile Banking My Panin

I. INTRODUCTION

Advances in information technology in today's digital era have brought many benefits, such as increased productivity, which allows various activities to be done faster and more accurately, as well as improving overall output. One example is the significant transformation in the banking sector, which is no longer limited to interactions at physical branches. With the growing popularity of smartphones, mobile banking apps have become a crucial tool for customers to manage their finances effectively. Bank Pan Indonesia (Panin Bank), as one of the leading banks in Indonesia, offers a mobile banking app designed to provide convenience and comfort for its users. Therefore, a system is needed that can accommodate all customer needs in an effective and efficient way.

Bank Pan Indonesia (Panin Bank) is a privately-owned institution engaged in banking. In the increasingly competitive banking world, Panin Bank has advantages like a good reputation and stability as a leading bank in Indonesia. Even so, Panin Bank still provides several services to support its customers' needs, one of which is My Panin Mobile Banking. My Panin Mobile Banking offers the convenience of performing several transactions such as checking balance information, transfers, credit card bill payments, and more. The My Panin Mobile Banking app is also available on smartphones with Android and iOS operating systems.

As an app aimed at meeting users' needs, it is expected that this app has good functionality and user experience. However, after observing user reviews on the Google Play Store and conducting interviews with some My Panin Mobile Banking users, there were several users who complained about having difficulties using the My Panin app.

This problem is part of the usability issues in the My Panin Mobile Banking app because it affects how easily users can use the app—in other words, it impacts the learnability. Then, when users try to find the menu by navigating through the available service menus, it affects the time it takes—in other words, it also impacts the app's efficiency. If users do not follow the proper steps or make mistakes, it will affect the app's error rate. And if users find these issues difficult, it will influence their overall satisfaction with the My Panin Mobile Banking app.

With the usability issues in the My Panin Mobile Banking app, it is also important to know how far the usability level of the My Panin Mobile Banking app has reached. Knowing the usability level is necessary to explain at which stage the usability of the My Panin Mobile Banking app is from the user's perspective. The usability level can be measured by evaluating

metrics like learnability, efficiency, errors, and satisfaction. This measurement can be done through an evaluation.

Therefore, research needs to be conducted using methods like Usability Testing and the System Usability Scale (SUS). Usability Testing is a way to assess how easy an app's user interface is to use. In this study, usability testing is used to measure how easy it is for users when they use the app for the first time, how quickly users can complete tasks in the app, and how many mistakes they make while using the app. SUS is used in this study to measure users' satisfaction with the My Panin Mobile app.

After identifying the usability problems, it is necessary to create interface improvement recommendations aimed at enhancing the usability of the My Panin Mobile app. Testing on these improvement recommendations should also be conducted to see the comparison of usability values between using the original design and the improved design. This study is expected to provide information on the level of usability of the My Panin Mobile app and what kind of interface improvements can be made to enhance each usability metric of the app, as well as to find out the comparison results of usability values using the original design versus the improved design.

The ease of using an application has a big impact on user experience and also affects user loyalty. If users find an app difficult to understand, they might switch to other services that are easier to use. That is why it is important to assess the usability of the My Panin app to find out its strengths and areas that need improvement. The System Usability Scale (SUS) is a commonly used method to measure system usability quantitatively. SUS provides a score that helps assess how user-friendly an app is from the users' perspective. The aim of this study is to evaluate the ease of use of the My Panin app based on active users' perspectives using the SUS method. The results of this study can provide input to make the My Panin app more user-friendly.

II. Literature Review

Mobile banking is a service provided by banks by utilizing information technology. Mobile banking is also a form of flexible business or m-commerce service that allows users to do various financial transactions like checking their balance and transferring funds using their phone [1].

Mobile banking has many functions, including bill payments, buying phone credit, investments, as well as account monitoring and transfers between financial institutions. This service saves time and provides flexibility for customers. Security is also given great attention with multiple layers of protection like two-step authentication and information encryption, along with transaction notification features to monitor account activity. Mobile banking is redefining how banks interact with customers, offering more personalized and responsive services through chatbot technology and data analytics used to understand customer needs. With the various benefits provided by these banking services, customers are expected to feel happy when using the different services offered by the bank.

A. User Interface

User Interface is when a system and a user can interact with each other through commands, like using content and entering data [2]. The User Interface includes buttons that users will click, text, images, text entry fields, and all items that will interact with users [3].

B. User Experience

User Experience (UX) is defined as the overall form of a user's attitudes, behaviors, preferences, and emotions when interacting with a product, service, handheld device, or information system. The UX aspect does not only focus on the visual beauty of the interface but also covers how well the system can provide satisfaction, ease, and optimal benefits to the user during the interaction process [4]. A good User Experience can meet user needs with simplicity and elegance, making the product enjoyable to own and fun to use.

User experience can be improved once the results of usability testing are known. And if usability improves, it will increase the loyalty level of website users [5].

C. Usability Testing

Usability or usable is a technique used to describe how easy a system or software is for users to use. When measuring the usability level of software, there are 5 indicators that can be measured, namely: a. Learnability, which measures how easily users can interact with or use a software system; b. Efficiency, which measures how fast and efficient a software system is; c. Memorability, which measures how quickly users regain proficiency when they return to the design after some time; d. Error, which looks at how many mistakes users make when using a software system; and e. Satisfaction, which explains the level of user satisfaction in using a software system [6].

D. System Usability Scale (SUS)

The System Usability Scale (SUS) is a testing method where the testing process and complex calculation process are done by involving the end user, but it can be done with a small sample size [7].

The SUS testing concept is a usability scale that is reliable; in other words, it gives consistent results across repeated trials. SUS testing is also inexpensive, so it can be used to evaluate a system's usability overall. SUS is a cost-effective and reliable tool to test a product's usability, including websites, mobile phones, TV apps, and more. SUS provides an easy-to-

understand scale from 0 to 100. The SUS questionnaire uses a 5-point Likert scale. Respondents are asked to rate 10 SUS statement items based on their subjective judgment [8].

The stages of conducting testing using SUS, according to Mirza and Irawan [9], are as follows:

1. Planning a usability test: The planning stage includes defining the research objectives, a list of task scenarios, problems faced by participants, the equipment used, and the data that needs to be collected.

2. Selecting a representative sample and recruiting participants: The stage of determining test respondents, who are selected according to the characteristics and conditions of those using the application or system.

3. Preparing the test materials and actual test environment: The stage of preparing equipment for testing, such as questionnaires, stationery, and documentation tools.

4. Conducting the usability test: The stage of carrying out the test.

5. Debriefing the participant: The stage of briefing the participants to understand everything the participants experienced during the test.

6. Analyzing the data of the usability test: The data analysis stage aims to gather data groupings according to data categories.

7. Reporting the result and making recommendations to improve the design and effectiveness of the product: The stage of preparing a report summarizing testing results, problems that occurred during testing, and suggestions for improving and developing the application or system.

To determine the grade of an assessment result, we evaluate it from the Acceptability Ranges perspective (not acceptable, marginal, and acceptable), from the Grade Scale perspective (grades A, B, C, D, and F), and from the Adjective Rating perspective (worst imaginable, poor, ok, good, excellent, and best imaginable) [10]. The SUS score can be interpreted into an adjective rating, which helps clarify the usability level of a system based on its nature. To determine whether a system is acceptable to users or not, the score interpretation is also translated into the acceptability range as a measure of user acceptance of the system [10].

Meanwhile, Sauro stated that the best way to interpret SUS scores is by converting them into percentile ranks through a process called normalization [10]. SUS scores can be converted into percentile ranks and letter grades from A to F, where A is the best grade and F is the worst. The higher the usability score of an application, the more it encourages users to keep using it; conversely, the lower the usability score, the more it discourages users from using it [11].

III. Research Methodology

This research uses a quantitative research method, involving quantitative data analysis on the measurement of the usability level of the My Panin Application using the System Usability Scale (SUS) Questionnaire.

To give a more detailed picture of the questionnaire used in this study, Table I presents the ten statements covering key aspects related to usability evaluation using the System Usability Scale (SUS):

Table I
Questionnaire Questions

No	Statement	Scale
1	I think I will use My Panin again	1-5
2	I feel My Panin is complicated to use	1-5
3	I feel My Panin is easy to use	1-5
4	I need help from others to use My Panin	1-5
5	I feel the features of My Panin work as they should	1-5
6	I feel there are many inconsistencies in My Panin	1-5
7	I feel others will understand how to use My Panin quickly	1-5
8	I feel My Panin is confusing	1-5
9	I feel there are no obstacles in using My Panin	1-5
10	I need to get used to it first before using My Panin	1-5

The questionnaires in this study were distributed to 120 users of the My Panin app who met the set criteria.

A. Data Analysis

Data analysis is a method for grouping information based on variables, organizing tables according to variables from all respondents, presenting information from each variable being studied, and performing calculations to answer research questions. In this phase, the researcher applies quantitative analysis techniques to data obtained from the System Usability Scale (SUS) questionnaire, which is presented in table form.

Here are the rules for calculating the scores on the questionnaire:

1. For every statement with an odd number, the score based on the respondent's answer is decreased by 1.

2. For every statement with an even number, the contributed score is obtained by subtracting the respondent's score from 5.

3. The SUS score is obtained by summing up the contributed scores of all statements and then multiplying the total by 2.5.

These scoring rules apply to each respondent. The SUS score for each respondent is then averaged.

IV. Results and Discussion

A. Respondent Characteristics

This study was conducted on 120 respondents who are active users of the My Panin app. The criteria for respondents are having used the app for at least one month and making transactions at least once a month. An overview of the distribution of respondent characteristics can be seen in Table II.

Table II
Respondent Characteristics

Characteristics	Category	Amount	(%)
Age	18-25 years old	15	12.50
	26-35 years old	40	33.33
	36-45 years old	35	29.16
	>45 years old	30	25.00
Gender	Male	63	52.50
	Female	57	47.50
Education	High School	10	8.33
	Diploma	30	25.00
	Bachelor's degree	57	47.50
	Postgraduate	23	19.16

In this study, the SUS questionnaire uses a 5-point rating based on a Likert scale, where respondents provide ratings with the following explanations: 1 represents strongly disagree, 2 represents disagree, 3 represents neutral or unsure, 4 represents agree, and 5 represents strongly agree.

Respondents filled out the questionnaire directly, containing the 10 statements related to the My Panin application. The tabulated questionnaire data were calculated according to the SUS scoring rules: odd-numbered items were reduced by 1, even-numbered items were subtracted from 5, and the summed score for each respondent was multiplied by 2.5. Based on the SUS score calculations from each respondent, the highest score obtained was 92.5 and the lowest score was 50, while the mode score was 85.

B. Discussion of Research Results

1) Individual Scores Per Question:

Table III
Average Score per SUS Question

No	Statement	Scale
1	I think I will use My Panin again	4.37
2	I feel My Panin is complicated to use	2.03
3	I feel My Panin is easy to use	4.63
4	I need help from others to use My Panin	2.17
5	I feel the features of My Panin work as they should	4.43
6	I feel there are many inconsistencies in My Panin	1.81
7	I feel others will understand how to use My Panin quickly	4.52
8	I feel My Panin is confusing	2.38
9	I feel there are no obstacles in using My Panin	4.61
10	I need to get used to it first before using My Panin	2.22

After tabulation and calculation, the overall average SUS Score was 79.89, obtained from 120 respondents. The average score obtained is then correlated with the SUS evaluation scales to determine the usability level of the My Panin App across five perspectives:

2) Percentile Ranks:

In this study, an SUS score of 79.89 was obtained. This indicates that the score for using the My Panin application falls into the good category, which means the My Panin application is considered suitable for use and all menus in the My Panin application work well.

3) Grade:

The next method closely related to percentile rank interpretation is grading. This type of scoring system is used to categorize SUS scores into grades ranging from A to F. Grade A represents superior performance, while grade F indicates failing performance, and C shows average or fair performance. The SUS score obtained in this study is 79.89, which falls into Grade B, meaning the score is considered good.

4) Adjectives:

The SUS score obtained is 79.89, which on the adjectives scale falls into the Good category. This means that using the My Panin App is considered good, indicating that the app is suitable for use and the menus in the app function properly.

5) Acceptability:

The next way to interpret SUS is through acceptability ranges ('acceptable', 'marginal', or 'not acceptable'). An SUS score above 71.0 (above the average SUS score of 68) is considered acceptable, scores between 51.7 and 71.0 are set as marginally acceptable (covering grades C to D), and scores below 51.6 are considered not acceptable. The SUS score obtained in the research is 79.89, which falls within the Acceptable range, showing that the My Panin application is already acceptable to users.

6) Promoters and Detractors:

There is a consistent significant relationship between SUS and Net Promoter Score (NPS), explaining about 30% to 50% of the variance in users' tendency to give recommendations. NPS identifies three categories based on likelihood to recommend: promoters (>= 78.9 to 100), passives (62.7 to 78.8), and detractors (<= 62.6). The SUS score obtained is 79.89, which falls into the promoter category, indicating that

respondents in this study are most likely to recommend the My Panin App.

V. Conclusion

Based on the data calculations and discussions in the research that has been conducted, it can be concluded that the My Panin App obtained an SUS score of 79.89 from 120 active users. On the Grade Scale, this SUS score falls under Grade B, indicating a good score above average. Based on the Adjectives Rating, the use of the My Panin App is considered good according to respondents, and in terms of Acceptability, the application falls within the acceptable range and can be effectively used by respondents. Furthermore, the NPS results show that the application falls into the promoter category, meaning respondents in this study are likely to promote or recommend the My Panin App to others.

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