THE USE OF SYSTEM USABILITY SCALE AS AN EVALUATION OF SHOPEE PAYLATER

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ABSTRACT

The increasing popularity of e-commerce in Indonesia has led to the emergence of a variety of financial services that support online transactions, such as Pay Later. Pay Later is a feature that allows users to make purchases on credit, with the option to pay later in installments. One of the most popular e-commerce platforms in Indonesia is Shopee. Shopee offers a Pay Later feature that allows users to make purchases on credit. However, the concept of Pay Later has not yet been fully accepted by the public. Some of its functions are still confusing for ordinary users. A study conducted by the University of Indonesia investigated the usability of the Shopee Pay Later feature. The study used the System Usability Scale (SUS) to measure the usability of the feature. The SUS is a 10-item questionnaire that is used to assess the usability of a system. The results of the study showed that the System Usability Scale score for the Shopee Pay Later feature was 75.38. This score indicates that the feature has an overall usability rating of "OK." However, the study also found that there were some areas where the features could be improved. The study conducted by the student Paramadina University suggests that usability enhancements can improve the user experience of Shopee Pay Later. These enhancements can make the feature more accessible and understandable for ordinary users, which can lead to increased adoption and satisfaction.

I. INTRODUCTION

SHOPEE is one of the youthful e-commerce companies or online marketplace platforms that has grown rapidly, especially in Indonesia, competing with other online marketplaces that had established themselves earlier in the Indonesian market. Shopee was founded by someone named Chris Feng and is managed by the Garena Group, with its headquarters in Singapore[1]. Shopee entered the Indonesian market in 2015, and by 2018, it had already achieved 1.5 million transactions within a 24-hour period.

The 'Buy Now, Pay Later' or paylater concept is currently booming among young people as a payment option for online shopping. However, there is a significant threat to this business model during the Covid-19 pandemic, namely the risk of defaulting on payments. Before applying for this product, users calculate and assess their financial ability. The credit limit granted can be substantial, possibly exceeding actual needs. This could become problematic if borrowers do not use it wisely. In addition to occupying the Top of Mind position, Shopee PayLater (77%) was also the most frequently used brand, followed by GoPay Later (28%), Akulaku Paylater (18%), Kredivo Paylater (14%), Traveloka PayLater (9%), Indodana (4%), Home Credit (3%), and Atome (2%)[12]. The paylater concept is similar to a credit card, where users owe the platform for purchases and pay later[19].

Shopee's latest offering is the Shopee Pay Later feature. Shopee Pay Later is an instant loan payment method with very minimal interest, making it highly sought after and introducing a new online shopping experience. The conditions for using paylater include having a registered and verified Shopee account, and users must be at least 18 years old and a maximum of 65 years old. SPayLater-Limit & Activation. Retrieved from https://help.shopee.co.id/portal/article/72939-[SPayLater---Limit-&-Aktivasi]-Bagaimana-cara-mengaktifkan-SPayLater%3F[2]. Shopee, with its Shopee PayLater feature, is officially registered with the Financial Services Authority (OJK) since September 30, 2019[3]. Despite being registered, many users still complain about Shopee's system, such as balances being deducted without any transactions, scams to steal user balances, the spread of users' personal data, and even criminal cases involving the hacking of user accounts [20].

This study aims to determine the usability of the paylater feature in the Shopee application. The research was conducted at Paramadina University Jakarta from November to December 2023. The initial data collection phase

involved direct observation of the research object, namely the usability of the Shopee PayLater feature. Samples were obtained through interviews and questionnaires with users. A total of 100 active users of the Shopee online shopping application were selected as participants in this research. The System Usability Scale (SUS) method was used to assess usability levels, identify problems, and gather suggestions for improvement[4]. The selection of the System Usability Scale (SUS) aligns with the research focus on user experience by directly measuring ease of use and enjoyment, while also aiding in the identification of specific usability issues through low scores on individual questions, which can pinpoint areas for improvement in the user interface or user flow of Shopee PayLater[13]. It is hoped that recommendations from various parties will contribute to enhancing the system's usability, ensuring that the Shopee online shopping application achieves high usability levels and user satisfaction. This research aims to achieve two main objectives: Evaluate the usability of the Shopee PayLater feature and identify areas for improvement, provide recommendations to increase Shopee PayLater usage.

II. RESEARCH METHODOLOGY

A. Study of Literature

The results of Daily Social's research indicate that Shopee PayLater ranks third, below GoPayLater and OVO PayLater, despite Shopee PayLater being easier to apply. This contradicts and supports Desthri Annisa's (2019) study, stating that, without being influenced by other variables, the ease-of-use variable does not affect online purchase decisions through the Shopee application. According to Davis (1989)[5], the perspective of perceived ease of use is a level of confidence that if someone uses the system, the effort required to accomplish something will be reduced. This aligns with Barnes, Chen's (2007)[5] assertion that trust is a critical element influencing consumer behavior. Hence, it supports Pavlou's (2014) statement that trust is the foundation for consumers to have expectations in exchange relationships or transactions[5].

Shopee PayLater takes the security of user data very seriously. A variety of security protocols are in place to protect users' personal data within the Shopee system. This data is safeguarded behind a secure network, accessible only to a select few employees granted special system access rights. However, it is important to note that no security system is infallible (Shopee, 2021). Furthermore, Shopee cannot guarantee the security of personal data or other information if users choose to share it on third-party sites (Shopee, 2021)[6].

This research follows a five-step process: literature review, testing method development, respondent selection, data collection, and data analysis.
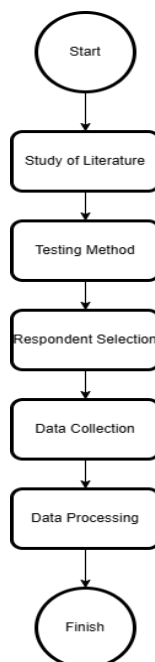

Figure. 1. Research Methodology

B. Testing Method

This research utilizes the System Usability Scale (SUS) to assess the usability of the target system and identify potential usability concerns. The SUS, a widely recognized and validated tool, employs a 10-item questionnaire administered to participants. The SUS questionnaire uses a scale of 1 which indicates strongly disagree to a scale of 5 which indicates strongly agree.[7]

C. Respondent Selection

In this study, the target population encompasses individuals within the productive age range (typically between 18 and 65 years old) who actively use the Shopee application and potentially utilize the Shopee PayLater feature. A sample size of 33 respondents was chosen based on several considerations: Representativeness, while a larger sample size would be ideal, 33 respondents can still provide valuable insights into the usability and user behaviour related to Shopee PayLater. Focus on Usability Evaluation, smaller sample sizes (around 30 participants) are often considered sufficient to identify key usability issues[14].

D. Data Collection

The author conducted data collection for this research by conducting in-depth interviews with respondents. The interviews were conducted with respondents filling out a questionnaire that included various questions regarding the use of the Shopee application or the utilization of Shopee Pay Later features.

This questionnaire consists of 10 questions with 5 answer options ranging from 1 to 5, with the questions as follows:

TABLE I
SUS ASSESSMENT GUIDELINES

P1	Saya berpikir saya akan menggunakan shopee/Shopee PayLater ini lagi.
P2	Saya merasa shopee/Shopee PayLater ini rumit untuk digunakan.
P3	Saya merasa shopee/Shopee PayLater ini mudah digunakan.
P4	Saya membutuhkan bantuan dari orang lain atau teknisi dalam menggunakan shopee/Shopee PayLater ini.
P5	Saya merasa fitur-fitur shopee/Shopee PayLater ini berjalan dengan semestinya.
P6	Saya merasa ada banyak hal yang tidak konsisten (tidak serasi pada shopee/Shopee PayLater ini).
P7	Saya merasa orang lain akan memahami cara menggunakan shopee/Shopee PayLater ini dengan cepat.
P8	Saya merasa shopee/Shopee PayLater ini membingungkan.
P9	Saya merasa tidak ada hambatan dalam menggunakan shopee/Shopee PayLater ini.
P10	Saya perlu membiasakan diri terlebih dahulu sebelum menggunakan shopee/Shopee PayLater ini.

E. Data Processing

Data processing is conducted once all distributed questionnaires have been collected, where the collected data has been elaborated by the author in an organized. Performing descriptive statistical analysis to determine the average SUS scores and score distribution. Descriptive analysis is a research method involving the collection of actual data, which is then organized, processed, and analyzed to provide an overview of existing issues[15][16]. Additionally, qualitative analysis of user comments is conducted to gain deeper insights into the usability of Shopee PayLater features. Qualitative descriptive analysis involves analyzing, describing, and summarizing various conditions and situations derived from collected data such as interview results or observations regarding the researched issues occurring in the field [17].

III. RESULTS AND DISCUSSION

Usability testing of the Shopee application, particularly focusing on the Shopee Pay Later feature, using the System Usability Scale (SUS) method was conducted from November 13, 2023, to December 20, 2023. Data collection was performed through a questionnaire with a quota of 33 respondents, consisting of individuals from various demographics who utilize the Shopee application, specifically the Shopee Pay Later feature. The selection of respondents aligns with the criteria necessary for conducting this testing, requiring them to visualize the recommendation results to assess statements in the SUS questionnaire that have been provided with application improvement suggestions. The following is a profile of the respondents:

TABLE III
PROFILE RESPONDENT 1

Pekerjaan Saat Ini	Jumlah
Pelajar/Mahasiswa	6
Pegawai Swasta	16
Pegawai Negri	1
Wirausaha	2

The Use of System Usability Scale as an Evaluation of Shopee PayLater

Pekerjaan Saat Ini	Jumlah
Startup Owner	1
Front End Programmer	1
Manager IT	1
Ibu Rumah Tangga	7
Tidak Bekerja	3
Total	33

The results of the usability testing calculations for the Shopee application, especially on the Shopee PayLater feature, among 33 respondents are as follows:

TABLE III
RESPONDENT SCORE RESULTS

Responden	Skor SUS	Responden	Skor SUS	Responden	Skor SUS
1	73	12	70	23	85
2	73	13	68	24	73
3	75	14	73	25	75
4	100	15	75	26	78
5	70	16	75	27	68
6	78	17	75	28	85
7	75	18	70	29	73
8	73	19	78	30	85
9	68	20	100	31	75
10	78	21	75	32	75
11	80	22	50	33	70
		Jumlah: 2488			
		Rata-rata skor SUS: 75			

In interpreting SUS score results, there are five methods employed, which are based on the interpretation of percentile ranks, adjective ratings, acceptability ranges, and grade letters[8], as illustrated in the interpretation scale diagram in the following image:
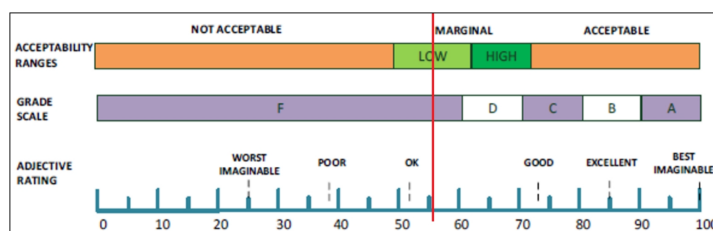

Figure. 2. SUS Interpretation Scale[9]

The following table provides a clearer overview of the values found in the above image.

TABLE IV
QUESTIONNAIRE VALUE SCALE

Grade	SUS	Percentile Rank	Adjective Rating	Acceptability Range
A+	84.1 – 100	96 - 100	Best Imaginable	Acceptable
A	80.8 - 84.0	90 - 95	Excellent	
A-	78.9 - 80.7	85 - 89	Good	
B+	77.3 - 78.8	80 - 84		
B	74.1 - 77.1	70 - 79		
B-	72.6 - 74.0	65 - 69		
C+	71.1 - 72.5	60 - 64		
C	65.0 - 71.0	41 - 59	OK	Marginal
C-	62.7 - 64.9	35 - 40		
D	51.7 - 62.6	15 - 34		

1. Grade Letter

The calculation results using the SUS method yield a score of 75. This SUS score is converted into letter grades[4]. These letter grades indicate the level of usability, ranging from A+ to D, where A+ is the highest class, and D is the lowest class. Based on the criteria stated in the table, the usability level obtained is 75, so it falls into B class.

2. Percentile Rank

To convert the SUS score results into percentile ranks, a tool in the form of a curve graph is used. This curve graph was developed by J Sauro [10], who observed more than 5000 SUS objects using the Bangor scale as shown in the below image. Based on Sauro's curve graph, for a SUS score of 75 (grade B), the percentile rank is at the 72nd percentile, which is a standard value for interpreting SUS scores.
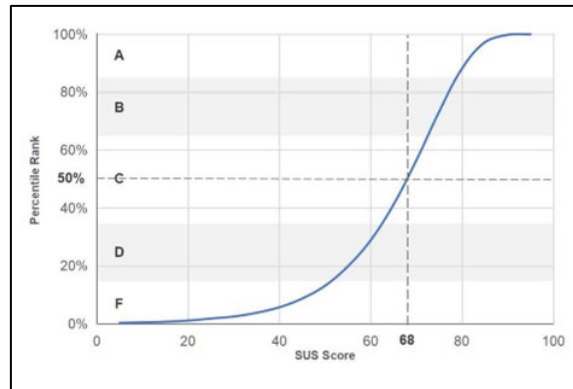

Figure. 3. Grafik Kurva J. Sauro

3. Adjective Ratings

Adjective ratings are assessments of usability levels described using adjectives to facilitate the interpretation of SUS scores (Bangor, 2009) [11]. The SUS score required for an application to fall into the GOOD category is 60, while the calculated result is 75, indicating a good adjective rating [18].

4. Acceptbility Ranges

Acceptability ranges refer to the level of acceptance for an application (Bangor, 2009) [11]. The level of acceptance deemed 'Acceptable' is for scores above 70, while 'Unacceptable' starts from scores of 50 and below. Scores between 50 - 70 are considered 'Marginally Acceptable,' falling within the range from C to D on the rating scale. Based on the table above, the acceptance level for the Shopee application, especially for the Shopee Pay Later feature, is considered acceptable.

Overall, the results of usability testing on the Shopee application, particularly on the Shopee Pay Later feature using the System Usability Scale (SUS), are as follows:

TABLE V
TEST RESULTS PRIOR TO SUS RECOMMENDATION

	Result
Skor SUS	75
Percentile Ranks	72%
Grade Letter	B
Adjective Ratings	Good
Acceptability Range	Acceptable

To achieve an A grade, a SUS score of 80.8 is required, indicating that users highly recommend the Shopee Pay Later feature to others. Based on the conducted usability testing, the Shopee application, particularly the Shopee Pay Later feature, received a SUS score of 74, signifying that the feature has an acceptable level of usability and generally meets the point where users would recommend it to others. The researcher will now present an analysis of respondent answers to several questions.

The Use of System Usability Scale as an Evaluation of Shopee PayLater

Figure. 4. Positive Statements

Positive statement, meaning respondents will provide an affirmative response if they support the statement. From the above image, 75.8% of respondents agree to use the Shopee Pay Later feature again.

Figure. 5. Negative Statements

Negative statement, meaning respondents will agree with it if they do not support the statement. From the above graph, 66.7% of respondents disagree with the statement, indicating that the majority of respondents do not encounter significant issues when using the Shopee Pay Later feature.

Based on the analysis of participant responses regarding the usability of Shopee Pay Later, several key recommendations have been identified to improve the user experience:

1. Expanding Feature Compatibility with Shopee Food: Participants expressed a strong desire to utilize Shopee Pay Later for Shopee Food transactions. Integrating Shopee Pay Later as a payment option within the Shopee Food platform would enhance user convenience and potentially increase both Shopee Pay Later adoption and Shopee Food sales.
2. Implementing a Bill Tracking Calendar: Analysis of participant responses revealed a need for a more efficient bill tracking system. Integrating a calendar feature within the Shopee Pay Later interface would allow users to easily view upcoming payment deadlines and manage their finances effectively. This could be achieved by displaying upcoming due dates, remaining balances, and potential late fees within a user-friendly calendar interface.
3. Re-evaluating Interest Rates: While the specific interest rates were not explicitly mentioned, some participants expressed concerns about the cost of using Shopee Pay Later. Analyzing competitor offerings and conducting user research to understand user sensitivity to interest rates could inform a potential reduction or a more transparent communication of interest rate structures.
4. Eliminating Additional Fees: Participants reported frustration with additional fees, such as handling fees. Eliminating such fees or incorporating them into a clear and upfront pricing structure would enhance user trust and transparency.

The Use of System Usability Scale as an Evaluation of Shopee PayLater

5. Streamlining the Monthly Installment Billing Process: Several participants found the current monthly installment billing process confusing. Evaluating user feedback and simplifying the process could involve clearer communication of installment options, highlighting potential late fees associated with missed payments, and providing a user-friendly interface for managing installment plans.

This revision provides more detail and rationale behind each recommendation, drawing connections to the insights gained from participant responses. There are 5 recommendation points for improvements to the Shopee Pay Later feature resulting from the analysis and discussion of each statement in the SUS questionnaire.

To evaluate the recommendations, the researchers added these 5 recommendations to each statement in the related System Usability Scale (SUS) questionnaire. The results of these recommendations serve as assumptions for the improvement of Shopee Pay Later features that have been implemented, providing users with an overview of the form and condition of the feature after these recommendations have been applied. The relationship between statements in the SUS questionnaire and the results of the recommendations can be seen in the following table:

TABLE VI
RELATIONSHIP OF SUS STATEMENTS TO RECOMMENDATIONS

Statement	Recommendation
1	1
2	2
3	1,3,4
4	1
5	1,2,3,4
6	5
7	2,3
8	2
9	3,4
10	2,5

The results of the usability testing for the Shopee Pay Later application recommendation feature using the System Usability Scale (SUS) questionnaire, obtained from 3 respondents, are as follows:

TABLE VII
PROFILE RESPONDENT 2

Pekerjaan Saat Ini	Jumlah
Startup Owner	1
Front End Programmer	1
Manager IT	1
Total	**3**

TABLE VIII
RESULTS OF QUESTIONNAIRE 2 CALCULATION OF RECOMMENDATIONS

Responden	Skor SUS
1	78
2	75
3	85
Total	**238**
Rata-rata Skor	**79**

Overall, the results of the usability testing for the Shopee PayLater feature, which has been recommended using the System Usability Scale (SUS), are as follows:

TABLE IX
USABILITY CALCULATION RESULTS AFTER RECOMMENDATIONS

	Hasil
Skor SUS	79
Percentile Ranks	88%
Grade Letter	A-
Adjective Ratings	GOOD
Acceptability Range	ACCEPTABLE

The usability testing of Shopee Pay Later features using the System Usability Scale (SUS) in this study yielded two different SUS scores. The first SUS score was obtained from the usability testing of the Time Exceled website by distributing SUS questionnaires to thirty-three respondents. The second SUS score was obtained from the usability testing of the Shopee Pay Later feature by distributing SUS questionnaires that had been modified to three

The Use of System Usability Scale as an Evaluation of Shopee PayLater

respondents from a professional background. In the second round of testing, modifications were made to the SUS questionnaire by incorporating points of improvement for the website based on the results of the first test into each statement of the second test questionnaire. As a result, the SUS score in the second test showed a significant increase (75.38 compared to 79.17), indicating that the recommended improvements to the Shopee Pay Later feature can enhance the usability of Shopee Pay Later.

Based on the usability testing results of the Shopee Pay Later feature on the website, before and after recommendations, an increase in the SUS score of 3.79 was observed in this study. The percentage increase in the score can be calculated as follows: $Percentage = (79.17 - 75.38) / 75.38 \times 100 \% = 19.89\%$. The increase in the SUS score resulting from the implementation of recommendations on the Shopee Pay Later feature in this study is 19.89%.

IV. CONCLUSIONS

This research evaluated the usability of Shopee PayLater features using the SUS method. The results showed an improvement in usability, with scores increasing from 75.38 in the first test to 79.17 in the second test. Based on the evaluation, five recommendations for enhancing usability were identified: 1) enabling Shopee PayLater for Shopee Food transactions, 2) incorporating a calendar feature for easier bill tracking, 3) reducing offered interest rates, 4) eliminating additional fees, and 5) improving the monthly installment billing process.

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