Analysis of User Satisfaction with the Lunapos Cashier Application Using the System Usability Scale (SUS) Method at PT Luna Aplikasi Indonesia

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ABSTRACT
Digital transformation through the use of Point of Sale (POS) applications has become a crucial element for operational efficiency in the MSME sector, where Lunapos serves as one of the reliable cloud-based cashier solutions. However, initial observations indicate technical obstacles such as slow loading processes and synchronization issues with receipt printer devices, which have the potential to reduce productivity and user satisfaction. This study aims to evaluate the usability level and user satisfaction of the Lunapos application using the System Usability Scale (SUS) method by involving 50 active user respondents. Data was collected through three months of observation,
in-depth interviews, and the distribution of standard SUS questionnaires. The test results show that the Lunapos application obtained an average SUS score of 70.05, which falls into the Acceptable category within the Acceptability Range, received a Grade Scale B, and an Adjective Rating at the OK level. These findings indicate that overall, the Lunapos application has met good and effective usability standards to support daily transactions. Nevertheless, continuous optimization of system stability and hardware integration is needed to overcome the remaining technical obstacles, so that the user experience can be comprehensively improved in the future.

Keywords : Usability, User Satisfaction, Lunapos, Point of Sale, System Usability Scale (SUS)

INTRODUCTION

The development of information technology has transformed various business sectors, including the operations of Micro, Small, and Medium Enterprises (MSMEs). One of the innovations that plays an important role in this transformation is the Point of Sale (POS) application or digital cashier machine, which enables transaction processes to become more efficient, accurate, and integrated. The implementation of digital payment systems not only facilitates business management but also increases consumer trust in the professionalism of services (Khoirunnisa et al., 2024).

Another study that analyzed the effectiveness level of using an application for android-based employee attendance at the Mekarjaya village office. The assessment was carried out using the System Usability Scale (SUS) approach, which is a proven quantitative method for assessing users' views on the ease of interacting with a system. This journal not only evaluates the application from the comfort aspect, but also from the

perspective of effectiveness and efficiency in daily work. The evaluation results indicating that the application has an impressive effectiveness, reaching a figure of 95%, indicating that the majority of users are able to complete the given tasks accurately. In terms of efficiency, the application records a value of 0.393 goals per second, indicating that user interaction speed is at a very good level. Additionally, user satisfaction measured with the SUS questionnaire yields an average score of 88.75, which falls into the "excellent" category and is considered highly satisfactory according to the applicable industry standards (Munawar et al., 2023).

Lunapos is one of the providers of cloud-based cashier application solutions widely used by the SME sector. As a system used daily in transaction activities, usability quality and User Experience need to be evaluated regularly. Preliminary studies show a number of operational challenges experienced by users, such as slow loading times, especially during login and shift changes, as well as instability of the connection with the printer device that causes printing receipt failures. These problems have the potential to hinder the efficiency of the cashier workflow, increase the risk of transaction recording errors, and reduce user satisfaction and comfort in their work. Therefore, a systematic evaluation using the System Usability Scale (SUS) is conducted to measure user satisfaction objectively and provide data-based improvement recommendations.

To obtain an objective and measurable evaluation, this study adopts the System Usability Scale (SUS) framework, a globally recognized standard questionnaire instrument to assess system usability from the subjective perspective of users. Through this testing, a quantitative score will be obtained that can be interpreted to measure the level of User Satisfaction with Lunapos, while also identifying which areas in the interface require improvement. The research results are expected to provide academic contributions in the field of information system usability evaluation and data-based practical recommendations for developers to improve the quality and effectiveness of the application.

LITERATURE REVIEW

Usability refers to the extent to which a system can be used effectively, efficiently, and satisfactorily by a particular user in a given context. According to usability principles, a good system should demonstrate learnability, efficiency, memorability, low error rate, and user satisfaction (Musfikar et al., 2023).

The System Usability Scale (SUS), introduced by John Brooke, is a reliable and simple instrument to measure system usability (Novitasari et al., 2020). SUS consists of ten statements rated on a five-point Likert scale. The final score ranges from 0 to 100 and can be interpreted using Acceptability Ranges, Grade Scales, and Adjective Ratings (Rachmawati & Setyadi, 2023).

Previous studies have shown that SUS is effective for evaluating various digital systems due to its simplicity, validity, and consistency. However, usability results must be interpreted carefully to identify specific areas for improvement in a given system.

METHODS

Problem Identification

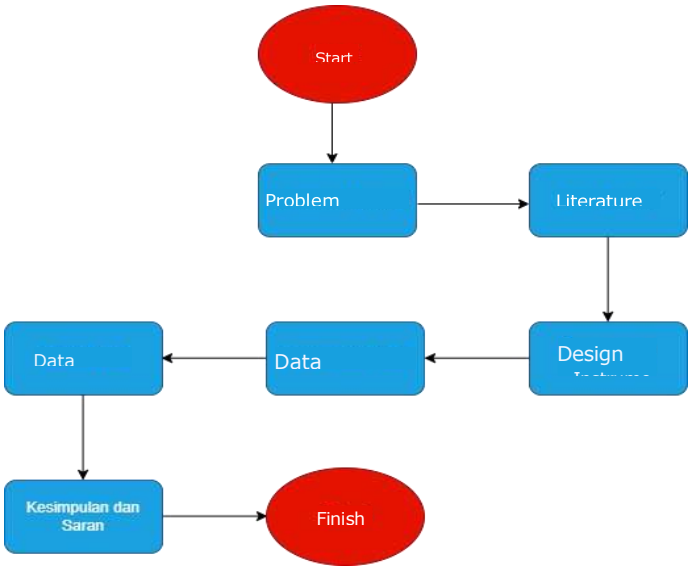

Figure 1. Research Stages

Population and Sample

This study focuses its population on all Micro, Small, and Medium Enterprises (MSMEs) or other business entities that actively operate using the Lunapos application as the main system for Point of Sale (POS) transactions (Putra et al., 2020).

Research Instrument

The main instrument in this research is the System Usability Scale (SUS) questionnaire, which consists of 10 statements using a 5-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree) (Nuriman & Mayesti, 2020). This questionnaire is used to measure three key usability aspects: effectiveness, efficiency, and user satisfaction, with analysis focusing primarily on the first two aspects.

Table 1. Measurement Scale

No	Description	Score
1	Strongly Agree (SA)	5
2	Agree (A)	4
3	Neutral (N)	3
4	Disagree (DS)	2
5	Strongly Disagree (SD)	1

To ensure the validity and reliability of the instrument, the researcher conducted a limited pilot test before full implementation. The reliability test yielded a Cronbach's Alpha value of 0.755, indicating that the questionnaire has good internal consistency. (Usman & Gustalika, 2022).

Table 2. Questions

No	Question	Score
1	I feel like using the Lunapos app routinely in daily transaction activities.	1 to 5
2	I feel the Lunapos app is too complicated to use.	1 to 5
3	I rate the Lunapos app as easy to use.	1 to 5
4	I feel I need help from someone else or a technician to be able to use the Lunapos app.	1 to 5
5	I feel the features in the Lunapos app are integrated withwell.	1 to 5
6	I assess that the Lunapos app often runs slowly (loading) long) while used.	1 to 5
7	I feel most users will quickly understand how to use the Lunapos application.	1 to 5
8	I find the Lunapos app confusing when first used	1 to 5
9	I feel confident when using the Lunapos application to perform transactions.	1 to 5
10	I need to get used to it long enough before I can use the Lunapos application smoothly.	1 to 5

Data Collection

Data collected through:

a. Observation: to directly observe the use of the Talenta application in daily work activities.
b. Interview: conducted with five active users to explore their subjective perceptions and experiences.
c. SUS questionnaire distribution: distributed via Google Form to all 50 respondents to obtain quantitative data on effectiveness and user satisfaction.

Measurement

According to (Antika, 2023) the SUS questionnaire consists of ten items with a 5-point Likert scale. The scoring procedure is:

a. For odd-numbered statements (1, 3, 5, 7, 9): subtract 1 from the respondent's score.

b. For even-numbered statements (2, 4, 6, 8, 10): subtract the respondent's score from 5.
c. Add all the resulting values, then multiply the total by 2.5 to obtain the overall SUS score per respondent.

SUS Score Calculation Formula: ((R1 − 1) + (5 − R2) + (R3 − 1) +(5 − R4) + (R5 − 1) + (5 − R6) +(R7 −1) + (5 − R8) + (R9 − 1) +(5 − R10)) × 2.5

The final score is obtained by calculating the average total SUS score from all respondeñ ts: $\bar{x} = \sum x / n$

Interpretation of results refers to Brooke and (Kesuma, 2021) guidelines, with the following ranges:
1. Not Acceptable: 0–50
2. Marginal: 50–70
3. Acceptable: 70–100

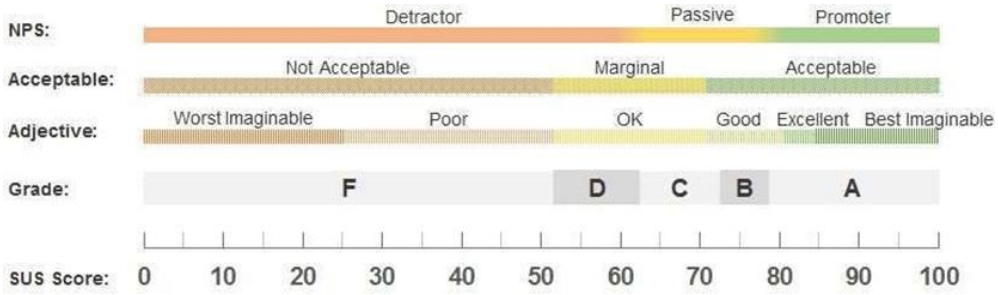

Figure 2. SUS Measurement

Validity and Reliability

The validity test shows that all statement items have an r-count value greater than 0.3120, indicating that all items are valid. The reliability test using Cronbach's Alpha yields a value of 0.755, indicating a high level of internal consistency in the measurement. (Usman & Gustalika, 2022).

RESULTS

Validation Test

Before performing further analysis, a validity test was conducted to ensure that each questionnaire item accurately measures the usability aspect in question. Based on data processing from 50 respondents, the r-table value is 0.2787 (df = 48, α = 0.05). The results show that all items have calculated r-values greater than 0.2787, indicating that all items are valid.

Table 3. Validation Test Results

No Instrument	r-hitung	r-tabel	Description
1	0.504	0.2787	Valid
2	0.716	0.2787	Valid

3	0.320	0.2787	Valid
4	0.607	0.2787	Valid
5	0.540	0.2787	Valid
6	0.750	0.2787	Valid
7	0.516	0.2787	Valid
8	0.715	0.2787	Valid
9	0.502	0.2787	Valid
10	0.624	0.2787	Valid

Reliability Test

Next, a reliability test was conducted to assess the internal consistency of the research instrument. The results show a Cronbach's Alpha value of 0.786, indicating that the questionnaire has high reliability and is suitable for use (Sembodo et al., 2021). This finding is also consistent with (Rosyid et al., 2022), which states that usefulness instruments are considered reliable if the Cronbach's Alpha value exceeds 0.70.

Table 4. Reliability Test Results

Case Processing Summary

		N	%
Cases	Valid	50	100.0
	Excluded a	0	0.0
	Total	50	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
0.786	10

SUS Score Calculation

After collecting data through the SUS questionnaire, the usability score was calculated using the standard SUS formula. Each respondent rated 10 statements on a Likert scale of 1–5. The calculation results show a total SUS score of 3502.5 from 50 respondents, with an average score of 70.05.

The average score is calculated using the following formula:

$\bar{x} = \sum x / n$ Where:

$\bar{x}$ = average score: 70.05

$\sum x$ = total SUS score from all respondents: 3502.5

n = number of respondents: 50

Table 5. Respondent Data

No. Respondent n	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Total
1	4	2	3	2	3	2	3	2	3	2	65
2	3	2	3	3	4	1	3	3	3	2	67.5
3	4	3	4	2	3	2	2	2	3	2	67.5
4	3	2	2	1	2	2	3	2	3	2	55
5	3	2	4	1	4	2	2	2	4	2	65
6	4	2	3	4	4	2	4	2	2	4	77.5
7	3	3	3	2	3	3	3	3	3	3	72.5
8	3	2	3	1	3	2	3	2	3	2	60
9	3	2	3	2	3	2	3	2	2	2	60
10	2	3	3	2	4	2	4	2	2	2	65
11	4	3	4	4	2	4	4	3	4	3	87.5
12	4	3	3	2	3	2	3	2	3	3	70
13	4	1	4	1	4	1	4	1	3	1	60
14	3	2	3	3	2	2	3	2	3	3	65
15	4	2	4	3	3	2	3	2	3	3	72.5
16	3	3	3	3	3	3	3	3	3	3	75
17	2	4	3	3	2	4	2	4	1	4	72.5
18	4	2	4	2	3	3	3	3	3	4	77.5
19	3	3	3	1	3	2	3	3	3	3	67.5
20	4	2	3	1	4	1	4	2	4	4	72.5
21	3	2	3	2	3	2	2	2	3	2	60
22	4	3	2	2	3	2	3	3	3	2	67.5
23	4	3	4	2	4	3	3	2	3	3	77.5
24	2	4	3	4	3	4	3	3	4	4	85
25	4	2	4	2	4	4	4	2	4	4	85
26	3	3	4	1	4	2	4	3	3	4	77.5
27	3	3	3	2	3	3	3	3	3	3	72.5
28	2	3	2	2	3	3	4	2	4	2	67.5
29	3	2	2	1	3	2	3	2	3	2	57.5
30	2	2	4	3	3	3	3	3	3	3	72.5
31	3	2	3	2	3	1	3	2	3	2	60
32	3	0	4	3	3	2	4	3	4	3	72.5
33	4	2	3	2	2	2	4	3	3	3	70
34	3	4	3	1	2	2	3	2	3	2	62.5
35	4	3	3	3	3	3	1	1	3	3	67.5
36	3	3	3	1	3	2	3	3	3	2	65
37	4	4	4	4	4	4	4	4	4	4	100
38	3	3	3	2	3	2	1	3	4	3	67.5

39	3	2	2	1	2	1	3	2	3	2	52.5
40	2	3	2	3	2	3	2	2	3	3	62.5
41	4	4	4	4	4	4	4	4	4	4	100
42	3	3	4	0	4	1	3	3	3	3	67.5
43	4	1	4	1	4	1	4	1	4	1	62.5
44	3	3	3	1	3	2	3	2	3	3	65
45	2	3	2	2	2	2	2	3	2	3	57.5
46	3	3	2	4	2	4	1	4	3	4	75
47	3	3	4	1	1	2	3	3	3	2	62.5
48	2	4	3	3	2	4	2	4	1	4	72.5
49	4	4	4	4	3	3	3	4	3	4	90
50	2	4	3	3	2	4	2	4	1	4	72.5
Total SUS Score											3502.5
Average Score Amount											70.05

SUS Score Interpretation

Based on the interpretation guidelines from Brooke and (Rifqy et al., 2022) a score of 70.05 falls into the “Acceptable” category, and ranges from Grade C to B with the adjective phrase “Ok to Good.”

This indicates that the Lunapos application demonstrates a good level of usability and is well received by its users.

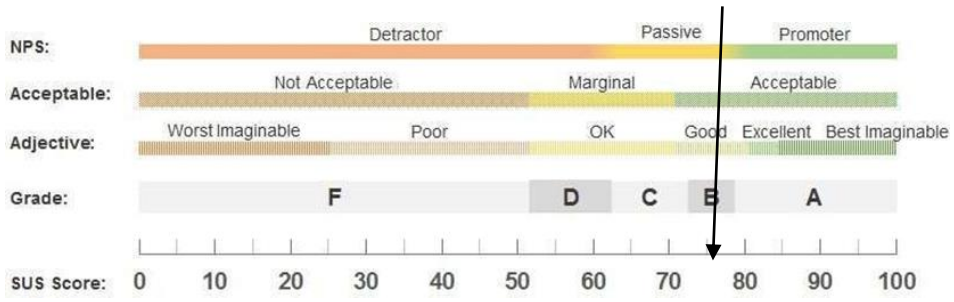

Figure 3. SUS Score Interpretation

DISCUSSION

This study aims to measure the usability level of the Lunapos application using the SUS method. The obtained score of 70.05 indicates that the system is within an acceptable range, meaning users generally consider the application easy to use and functional.

Compared to the standard SUS benchmark, a score above 68 is considered above average. Therefore, Lunapos performs better than the average usability threshold. However, qualitative findings from interviews reveal concerns about system stability during peak hours and printer synchronization issues.

From a managerial perspective, these findings indicate that system optimization, especially in server performance and hardware integration, should be prioritized. Improving these aspects could raise the SUS score to the "Good" category.

CONCLUSION

This study concludes that the Lunapos application achieved a SUS score of 70.05, categorized as Acceptable with a Grade B and an “OK” rating. This indicates that the application has good usability and is suitable for operational use. However, improvements in system stability and hardware compatibility are needed to enhance user satisfaction and overall performance.

LIMITATION

This study has several limitations. First, the sample size was limited to 50 respondents, which may not fully represent all Lunapos users. Second, this research only focused on measuring usability using SUS without incorporating other evaluation methods such as heuristic evaluation or user experience testing. These limitations may affect the generalizability of the findings.

Future research is recommended to involve a larger sample size and combine several usability evaluation methods for more comprehensive results.

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