

Assessing User Experience and Usability in the OVO Application: Utilizing the User Experience Questionnaire and System Usability Scale for Evaluation

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Assessing User Experience and Usability in the OVO Application: Utilizing the User Experience Questionnaire and System Usability Scale for Evaluation

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Abstract

Advances in technology in the payment system have changed the role of cash used by the public to become more effective and efficient in non-cash payments. OVO has one of the largest user bases in Indonesia. However, the OVO application has the lowest rating compared to other digital wallet applications on Google Play Store and App Store. OVO receives numerous negative reviews on both Google Play Store and App Store. One of the common complaints expressed by users pertains to the user experience of the OVO application, which significantly affects their overall experience with the app. This study aims to evaluate the user experience of the OVO application using the User Experience Questionnaire and measuring usability using the System Usability Scale. The results of the benchmark six aspects of UEQ show that one aspect is included in the excellent category: efficiency (1.55). Then four aspects fall into the above-average category, namely the attractiveness aspect (1.56), the perspicuity aspect (1.67), the dependability aspect (1.33), and the stimulation aspect (1.16). However, one aspect is included in the below-average category, namely the novelty aspect (0.64), which needs improvement. Then the result of the SUS value obtained is 77.53, meaning that the Acceptability Ranges category was "Acceptable", the Grade Scale category was "C", and the Adjective Rating category was "Good". Overall, the evaluation results show that OVO applications are acceptable for digital wallet applications.

Keywords: digital wallet, user experience, usability, user experience questionnaire, system usability scale

1. Introduction

Today's modern transactions continue to shift from cash-based transactions to electronic-based transactions. Equal connectedness through Information and Communication Technology (ICT) has contributed significantly to the market transformation of their financial and operational businesses. The trend towards digitization and internet use has brought about significant changes in how the global economy operates. The emergence of various financial technology (FinTech) applications is enabling consumers to go beyond conventional cash-based payment systems. Digital payments are becoming the norm in people's daily lives. This rapid development in the financial sector led to the invention of many digital payment technologies, where payers and payees use

digital applications to send and receive money. As such, payment systems are rapidly changing from coin and paper-based cash to convenient, fast and cost-effective forms of digital payments [1]. The development of non-cash transactions is expected to increase yearly globally. In 2022, the growth of non-cash transactions was estimated to reach 1,045.5 billion USD, with the highest growth in developing countries in Asia and the Middle East [2]. Digital wallets are now necessary for people to carry out their activities and meet their needs [3][4]. This positive trend must be followed by good user experience and application usability [5]. E-Wallet is an electronic service that functions to store data and as a payment instrument. In principle, E-Wallet is similar to mobile banking or Internet banking services, but the depositor does not use a bank but a digital wallet.

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E-wallet applications in Indonesia include OVO, Dana, GoPay, Shopeepay, Jenius, LinkAja, and others [6].

OVO is an electronic wallet application in Indonesia that users have used since 2016. OVO offers easy payments for phone credit, data packages and insurance. Nevertheless, OVO got some negative reviews on Google Play and App Store. One of the negative reviews that users feel about the OVO application is a user experience problem which causes the application's user experience to work better than the user expects. Some users complained that the OVO application response process was slow and that the payment process using OVO took too long for them. The application's usability includes the user experience issues experienced by OVO users. Usability refers to how quickly and easily application users can complete tasks [7].

Research using the user experience questionnaire method and system usability scale was conducted by Guntur Eka Saputra, Rakhmi Khalida, and Ratu Nurmalika from Gunadama University entitled "Evaluation of User Experience TLX Training Gate for Competitive Programming Learning using User Experience Questionnaire and System Usability Scale". In this study, the measurement results were obtained on 6 UEQ scales, namely the attractiveness scale (1.27), perspicuity (0.85), efficiency (1.12), dependability (1.13), stimulation (1.35) and novelty (0.81). All scales get positive impressions; the SUS score is 75 [8].

Furthermore, research was conducted by Nina Setiyawati and Dwi Hosanna Bangkalang entitled "The Comparison of Evaluation on User Experience and Usability of Mobile Banking Applications Using User Experience Questionnaire and System Usability Scale". In this study, the 6 UEQ scale measurements on four mobile banking applications received a positive impression on each scale except for BNI Mobile (Efficiency and Novelty) and Livin (Novelty), which received a neutral impression. SUS scores were obtained for the four mobile banking applications, namely BCA Mobile (72.76), Octo Mobile (71.47), BNI Mobile (71.49), and Livin (72.4) [5].

This study aims to evaluate the user experience and measure the usability of the OVO application. The user experience in the OVO application is evaluated using a user experience questionnaire by analyzing six scales or aspects, namely attractiveness, perspicuity, dependability, efficiency, stimulation, and novelty [9][10]. Meanwhile, to measure usability in the OVO application, the system usability scale is used by analyzing three categories: acceptability ranges, grade scales, and adjective ratings [11][12].

User Experience Questionnaire is a questionnaire that provides an overview of the level of user satisfaction based on user experience. The User Experience

Questionnaire has six scales with 26 statements. This scale includes attractiveness, perspicuity, dependability, efficiency, stimulation, and novelty. The user experience questionnaire has been tested in several cases to provide an overview of user satisfaction. It usually takes 3-5 minutes to read and complete the user experience questionnaire. One of the other advantages of the user experience questionnaire is the free availability of this questionnaire which is available in the Indonesian language version. User experience questionnaire data analysis was carried out using the UEQ Data Analysis Tool, which compared the value of each aspect with existing product data [13].

John Brooke created the SUS questionnaire at the Digital Equipment Corporation in England 1986 [14]. This questionnaire measures three crucial aspects. The first aspect is the effectiveness of using this technology in achieving user goals. The second aspect is efficiency, namely how much user effort and resources are expended in achieving these goals. The third aspect is satisfaction, where how satisfying is the user experience [15].

2. Research Methods

This study aims to assess and quantify the user experience and usability of the OVO application by employing the User Experience Questionnaire (UEQ) and System Usability Scale (SUS). The research methodology and process are illustrated in Figure 1.

A. Research Design

The research design is evaluative and descriptive, which aims to measure and explain the success of a particular product, program or activity so that conclusions can be drawn about its feasibility, relevance, effectiveness and efficiency.

B. Research Process

The research framework used as a reference in the research to be carried out is shown in Figure 1.

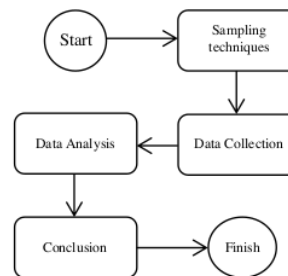


Figure 1. Research Process

Figure 1. menjelaskan bahwa alur penelitian dimulai dengan teknik pengambilan sampel dan berakhir dengan penentuan kesimpulan. Informasi rinci tentang setiap kegiatan penelitian akan disajikan dalam sub bab pembahasan selanjutnya.

C. Sampling Technique

This stage aims to determine the sample and sampling technique used during the study. The population that is the focus of this research are those who use the OVO application. This study uses the Lemeshow formula to determine the number of samples with an unknown population [16]. Through the Lemeshow formula, the number of samples to be taken is at least 100 respondents. The sampling technique used in this study is Non-Probability Sampling, namely Purposive Sampling, a sampling technique selected based on specific criteria that the researcher wants. The criteria used in this study are as follows:

- a. OVO application users.
- b. Located di Indonesia.
- c. Minimum age of 15 years.

D. Data Collection

At this stage, data collection was carried out from predetermined respondents. In this study, the instrument used was a questionnaire. The questionnaire will include questions about the respondent's identity, the general use of the OVO application, 26 user experience questionnaire statements, and ten system usability scale statements. At this stage, the questionnaire will be distributed indirectly or online. To OVO application users, questionnaires will be distributed via social media such as Whatsapp, Telegram, Twitter and Instagram. Questionnaires will be created and filled out using Google Forms. The dissemination was done from 9 February 2023 to 16 March 2023. The samples obtained during the deployment were 166 respondents, but 11 were not users of the OVO application, so the remaining 155 respondents.

The user experience questionnaire consists of 6 scales divided into 26 indicator questions, as shown in Table 1. The user experience questionnaire uses a 7-point semantic differential scale. Respondents were asked to assess from 1 to 7 on 26 UEQ indicator items according to their subjective assessment. The User Experience Questionnaire (UEQ) is used to measure user experience consisting of 26 question components covering aspects [17]:

- a. Attractiveness
The product should look attractive, enjoyable, friendly, and pleasant.
- b. Efficiency

- I should perform my tasks with the product fast, efficient, and in a pragmatic way.
- c. Perspicuity
The product should be easy to understand, clear, simple, and easy to learn.
- d. Dependability
The interaction with the product should be predictable, secure, and meets my expectations.
- e. Stimulation
Using the product should be interesting, exiting, and motivating.
- f. Novelty
The product should be innovative, inventive, and creatively designed.

The components of the UEQ questions based on the aspects assessed are shown in Table 1.

Table 1. UEQ Testing Instruments

Scale	Indicator		Item
Attractiveness	Inconvenient	Enjoyable	ATT1
	Good	Bad	ATT2
	Dislike	Gratifying	ATT3
	Uncomfortable	Comfortable	ATT4
	Attractive	Unattractive	ATT5
	User-friendly	User-unfriendly	ATT6
Perspicuity	Not understood	Understandable	PER1
	Easily understood	Hardly understood	PER2
	Complicated	Simple	PER3
	Clear	Confusing	PER4
Efficiency	Fast	Slow	EFF1
	Inefficient	Efficient	EFF2
	Impractical	Practical	EFF3
	Organized	Disorganized	EFF4
Dependability	Unpredictable	Predictable	DEP1
	Obstruct	Supportive	DEP2
	Safe	Unsafe	DEP3
	Meet expectations	Not meeting expectations	DEP4
Stimulation	Beneficial	Less beneficial	STI1
	Tedious	Engaging	STI2
	Unappealing	Interesting	STI3
	Motivational	Unmotivating	STI4
Novelty	Creative	Monotonous	NOV1
	Innovative	Conventional	NOV2
	Commonplace	Leading-edge	NOV3
	Conservative	Innovative	NOV4

The system usability scale questionnaire consists of 10 statements, as shown in Table 2. The system usability scale questionnaire uses a 5-point Likert scale. Respondents were asked to provide an assessment of "Strongly Disagree", "Disagree", "Neutral", "Agree", and "Strongly Agree" on the 10 SUS statements according to their subjective assessment. The System Usability Scale (SUS) measures the usability attributes of the OVO application, namely aspects of effectiveness, efficiency, satisfaction, satisfaction, easy to learn, ease to remember and few errors. SUS gives an overall score between 0 a 100. The SUS half section (odd statements, i.e. 1, 3, 5, 7, and 9) describes a positive evaluation (items with positive polarity). The other half of the sections (even statements, i.e. 2, 4, 6,

8, and 10) depict negative evaluations (items with negative polarity). For items with positive polarity, answers were coded as 0 to 4 from disagreement to agreement. Whereas for items with negative polarity, the answers are coded from 4 to 0 [18]. The list of SUS statements is shown in Table 2.

Table 1. SUS Testing Instruments [14]

Questions	Item
I think that i would like to use this system frequently	SUS1
I found the system unnecessarily complex	SUS2
I thought the system was easy to use	SUS3
I think that I would need the support of a technical person to be able to use this system	SUS4
I found the various functions in this system were well integrated	SUS5
I thought there was too much inconsistency in this system	SUS6
I would imagine that most people would learn to use this system very quickly	SUS7
I found the system very cumbersome to use	SUS8
I felt very confident using the system	SUS9
I needed to learn a lot of things before I could get going with this system	SUS10

E. Data Analysis

At this stage, data inconsistencies analysis, quantitative data analysis, demographic analysis, and descriptive statistical analysis of the data that has been obtained are carried out. The data obtained will be processed using IBM SPSS Statistics 25, UEQ Data Analysis Tool, and Microsoft Excel.

In analysing data inconsistencies using the UEQ Data Analysis Tool Version 12. At this stage, the seriousness of the respondents was tested in answering the questionnaire and detecting suspicious data. If the critical value is > 2 and the critical length value is > 15, this indicates an error in filling out the questionnaire, and it is better to delete the data.

In the analysis of quantitative data, a validity test and a reliability test will be carried out on the data that has been obtained. The validity test was carried out by looking at the Pearson correlation value of each indicator for each variable. In contrast, the reliability test was carried out by looking at Cronbach's alpha (α) value of each research variable.

In the analysis of demographic data, respondent data will be grouped based on gender, age, duration of use, and frequency of use. The data will then be represented as a chart or graph.

In the descriptive statistical analysis using UEQ Data Analysis Tool Version 12 and Microsoft Excel. The data presented in this descriptive statistical test shows data that can be seen from the mean, which is the average value of each measured scale; the maximum, which is the highest value of each measured scale; the minimum, which is the lowest value of each measured scale, and the standard deviation used to determine the

distribution of data from the sample and used to describe each research variable.

Several rules must be considered when transforming scores on questionnaire data using UEQ:

- a. Each answer in the UEQ questionnaire is rated on a scale of 1 to 7, indicating the level of user acceptance from "negative" to "positive".
- b. These items have a scale from -3 to +3. Thus, -3 represents the most negative answer, 0 is a neutral answer, and +3 is the most positive answer [19].

After the data transformation, only the average or mean assessment can be carried out for each scale or question item on the UEQ from each respondent's answer. The following are the rules for the average or mean rating scale in UEQ which can be seen in Table 3:

Table 2. UEQ Mean Rating Scale

Mean Value Range	Explanation
> 0.8	Positive Evaluation
-0.8 – 0.8	Neutral Evaluation
< -0.8	Negative Evaluation

If the mean value of an item is more significant than 0.8, then the item will enter into the positive evaluation category and, in the diagram, is in the green area. If the mean value of an item is between -0.8 to 0.8, then the item will fall into the normal or neutral evaluation category and, in the diagram, is in the yellow area. Meanwhile, if the mean value of an item is less than -0.8, then the item will enter into the negative evaluation category and in the diagram, it is in the red area.

Then several rules must be considered when calculating scores on questionnaire data using SUS:

- a. For every odd-numbered question (1, 3, 5, 7, 9), the score obtained from user responses will be reduced by 1..

$$odd\ weight = xi - 1 \tag{1}$$

- b. Each even-numbered question (2, 4, 6, 8, 10) will have its final score calculated by subtracting the user's score from 5

$$even\ weight = 5 - xi \tag{2}$$

- c. The SUS score is obtained by summing up the scores of each question and then multiplying it by 2.5.

$$SUS\ Score = (odd\ weight + even\ weight) \times 2,5 \tag{3}$$

- d. The scoring rules mentioned above apply to one respondent. For multiple respondents, the SUS scores of each respondent are summed up and then divided by the number of respondents to calculate the average SUS score..

$$\bar{x} = \frac{\sum x}{n} \quad (4)$$

\bar{x} represents the average SUS score, $\sum x$ denotes the sum of the SUS scores, and n indicates the number of respondents.

3. Results and Discussions

A. Analysis of Data Inconsistencies

The analysis of inconsistencies in the data is conducted using UEQ Data Analysis Tools Version 12, specifically on the Inconsistencies tab. Inconsistencies are utilized to assess respondents' seriousness in answering the questionnaire, determining whether they responded haphazardly or without seriousness, and detecting suspicious data. If the critical value is more significant than two and the critical length exceeds 15, it indicates errors in completing the questionnaire, and it is recommended to remove such data.

Table 3. Inconsistencies Data

No	Scales with inconsistent answers						Critical length
	Efficiency	Dependability	Stimulation	Novelty	Control	Attractiveness	
13	1	1	1	1	1	1	13
14	1	1	1	1	1	1	14
112	1	1	1	1	1	1	112
113	1	1	1	1	1	1	113
114	1	1	1	1	1	1	114
115	1	1	1	1	1	1	115
116	1	1	1	1	1	1	116
117	1	1	1	1	1	1	117
118	1	1	1	1	1	1	118
119	1	1	1	1	1	1	119
120	1	1	1	1	1	1	120

After the update by removing data, 155 respondent data was reduced to only 148.

B. Quantitative Data Analysis

In this stage, a testing or pilot test is conducted before the actual research to assess the suitability of a questionnaire. Before data collection, the author distributed the questionnaire to 30 respondents to test its validity and reliability. Valid questionnaires with reliable indicators were distributed to respondents who met the criteria and matched the predetermined sample size.

a. Validity Test

The validity test is conducted on 30 respondents to assess the validity of the questionnaire. An item is considered valid if the calculated r exceeds the tabled r . The significance level is 0.05 or 5% for 30 respondents, resulting in a tabled r of 0.361. Below are the validity test results for each variable item:

Table 4. Validity test of the attractiveness scale

Item	The calculated r value	The tabled r value	Description
ATT1	0.646	0.361	Valid
ATT2	0.751	0.361	Valid
ATT3	0.877	0.361	Valid
ATT4	0.582	0.361	Valid
ATT5	0.713	0.361	Valid
ATT6	0.538	0.361	Valid

Table 5 demonstrates that all items in the attractiveness scale are deemed valid as the calculated r values are more significant than the tabled r value.

Table 5. Validity test of the perspicuity scale

Item	The calculated r value	The tabled r value	Description
PER1	0.373	0.361	Valid
PER2	0.523	0.361	Valid
PER3	0.464	0.361	Valid
PER4	0.712	0.361	Valid

Table 6 shows that all items in the perspicuity scale are considered valid as the calculated r values are more significant than the tabled r value.

Table 6. Validity test of the efficiency scale

Item	The calculated r value	The tabled r value	Description
EFF1	0.645	0.361	Valid
EFF2	0.713	0.361	Valid
EFF3	0.678	0.361	Valid
EFF4	0.660	0.361	Valid

Table 7 shows that all items in the efficiency scale are deemed valid as the calculated r values are more significant than the tabled r value.

Table 7. Validity test of the dependability scale

Item	The calculated r value	The tabled r value	Description
DEP1	0.720	0.361	Valid
DEP2	0.444	0.361	Valid
DEP3	0.504	0.361	Valid
DEP4	0.788	0.361	Valid

Table 8 shows that all items in the dependability scale are considered valid as the calculated r values are more significant than the tabled r value.

Table 8. Validity test of the stimulation scale

Item	The calculated r value	The tabled r value	Description
STI1	0.666	0.361	Valid
STI2	0.776	0.361	Valid
STI3	0.578	0.361	Valid
STI4	0.741	0.361	Valid

Table 9 displays that all items in the stimulation scale are deemed valid as the calculated r values are more significant than the tabled r value.

Table 9. Validity test of the novelty scale

Item	The calculated r value	The tabled r value	Description
NOV1	0.754	0.361	Valid
NOV2	0.469	0.361	Valid
NOV3	0.615	0.361	Valid
NOV4	0.544	0.361	Valid

Table 10 shows that all items in the novelty scale are considered valid as the calculated r values are more significant than the tabled r value.

Table 10. Validity test of SUS

Item	The calculated r value	The tabled r value	Description
SUS1	0.475	0.361	Valid
SUS2	0.822	0.361	Valid
SUS3	0.423	0.361	Valid
SUS4	0.687	0.361	Valid
SUS5	0.387	0.361	Valid
SUS6	0.782	0.361	Valid
SUS7	0.433	0.361	Valid
SUS8	0.785	0.361	Valid
SUS9	0.406	0.361	Valid
SUS10	0.671	0.361	Valid

Table 11 shows that all items on the SUS are deemed valid because the computed r-value is greater than the critical r-value.

a. Reliability Test

Table 11. Reliability Test of 26 UEQ Items

Reliability Statistics	
Cronbach's Alpha	N of Items
0.993	26

Table 12 shows that all indicator items in the UEQ are deemed reliable because the Cronbach's alpha values are greater than 0.60.

Table 12. Reliability Test of the 6 UEQ Scales

Scale	Cronbach's Alpha
Attractiveness	0.90
Perspicuity	0.90
Efficiency	0.87
Dependability	0.80
Stimulation	0.91
Novelty	0.83

Table 13 displays that 12 scales in the UEQ are considered reliable as the Cronbach's alpha values are greater than 0.60.

Table 13. Reliability Test of SUS

Reliability Statistics	
Cronbach's Alpha	N of Items
0.795	10

Table 14 shows that all items in the SUS questionnaire are considered reliable, as the Cronbach's alpha values are greater than 0.60.

C. Analysis of Demographic Data

Respondents' characteristics can be grouped based on gender, age, residence, highest education level, duration of app usage, and intensity of app usage to provide an overview of the respondents' conditions. The following are the results of the demographic analysis of the respondents:

a. Gender

Table 14. Characteristics Based on Gender

Gender	Total	Percentage
Male	52	35.1%
Female	196	64.9%

According to Table 15, there are 52 male respondents, accounting for 35.1% of the total, and 96 female respondents, accounting for 64.9%. Therefore, it can be concluded that the majority of OVO users in this study are female.

b. Age

Table 15. Characteristics Based on Age

Age	Total	Percentage
15 – 23 years	112	75.7%
24 – 32 years	14	9.5%
33 – 41 years	10	6.8%
42 – 50 years	10	6.8%
> 50 years	2	1.4%

According to Table 16, it can be seen that there are 112 respondents aged 15-23 years old, accounting for 75.7%, 14 respondents aged 24-32 years old, accounting for 9.5%, 10 respondents aged 33-41 years old, accounting for 6.8%, 10 respondents aged 42-50 years old, accounting for 6.8%, and 2 respondents aged over 50 years old, accounting for 1.4%. Therefore, it can be concluded that the majority of OVO users in this study are aged between 15 and 23 years old.

c. Residence

Table 16. Characteristics Based on Residence

Residence	Total	Percentage
Banten	3	2%
Bengkulu	1	0.7%
DKI Jakarta	37	25%
West Java	25	16.9%
Central Java	1	0.7%
East Java	4	2.7%
Bangka Belitung	6	4.1%
Riau	1	0.7%
Lampung	1	0.7%
South Sulawesi	1	0.7%
South Sumatra	66	44.6%
North Sumatra	2	1.4%

According to Table 17, it can be seen that there are respondents from various provinces in Indonesia. There are three respondents (2%) from Banten Province, 1 respondent (0.7%) from Bengkulu Province, 37 respondents (25%) from DKI Jakarta Province, 25 respondents (16.9%) from West Java Province, 1 respondent (0.7%) from Central Java Province, four respondents (2.7%) from East Java Province, six respondents (4.1%) from Bangka Belitung Islands Province, 1 respondent (0.7%) from Riau Islands Province, 1 respondent (0.7%) from Lampung Province, one respondent (0.7%) from South Sulawesi Province, 66 respondents (44.6%) from South Sumatra Province, and two respondents (1.4%) from North Sumatra Province.

From the data, most OVO users involved in this study are from South Sumatra Province.

d. Highest education level

Table 17. Characteristics based on highest education level

Highest education level	Total	Percentage
Elementary School	1	0.7%
Junior High School	5	3.4%
Senior High School	97	65.5%
Diploma	2	1.4%
Bachelor's Degree	40	27%
Master's Degree	1	0.7%
Other	2	1.4%

According to Table 18, it can be seen that there is one respondent with an elementary school education, accounting for 0.7%, five respondents with a junior high school education, accounting for 3.4%, 97 respondents with a senior high school education, accounting for 65.5%, two respondents with a diploma (D3) education, accounting for 1.4%, 40 respondents with a bachelor's degree (S1) education, accounting for 27%, one respondent with a master's degree (S2) education, accounting for 0.7%, and two respondents with other last education, accounting for 1.4%. Therefore, most OVO users in this study have a high school education.

e. Usage Duration

Table 18. Characteristics based on usage duration

Usage duration	Total	Percentage
< 1 year	33	22.3%
1 – 3 years	57	38.5%
> 3 years	58	39.2%

Based on Table 19, it can be seen that 33 respondents have been using the OVO application for less than one year, accounting for 22.3%, 57 respondents who have been using the OVO application for 1 to 3 years, accounting for 38.5%, and 58 respondents who have been using the OVO application for more than three years, accounting for 39.2%. Therefore, most OVO users in this study have used the OVO application for over three years.

f. Usage Intensities

Table 19. Characteristics based on usage intensities

Usage intensities	Total	Percentage
Rarely	29	19.6%
Sometimes	52	35.1%
Frequently	60	40.5%
Very frequently	7	4.7%

According to Table 20, it can be seen that 29 respondents rarely use the OVO application, accounting for 19.6% of the total, 52 respondents sometimes use the OVO application, accounting for 35.1%, 60 respondents who frequently use the OVO application, accounting for 40.5%, and seven respondents who use the OVO application very frequently, accounting for

4.7%. Most OVO users in this study frequently use the OVO application.

D. Descriptive Statistical Analysis

Descriptive statistical analysis of the User Experience Questionnaire (UEQ) method is conducted by calculating the mean scores for each UEQ scale and each question item. However, data transformation needs to be performed before conducting the descriptive statistical analysis. The following table and graph show the mean scores for pragmatic and hedonic quality:

Table 20. Mean Score of Pragmatic and Hedonic Quality

Pragmatic and Hedonic Quality	
Attractiveness	1.56
Pragmatic Quality	1.52
Hedonic Quality	0.90

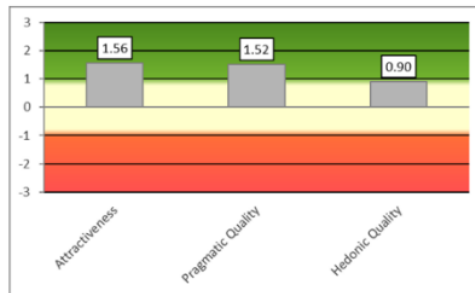


Figure 2. Graph of Mean Scores for Pragmatic and Hedonic Quality

Based on the data presented in Table 16 and Figure 2, it can be observed that attractiveness, pragmatic quality, and hedonic quality of the OVO application are in the green area, indicating positive evaluation scores. The following table and graph show the mean scores for the 6 UEQ scales:

Table 21. Mean Scores of the 6 UEQ Scales

UEQ Scales	
Attractiveness	1.563
Perspicuity	1.671
Efficiency	1.546
Dependability	1.331
Stimulation	1.162
Novelty	0.644

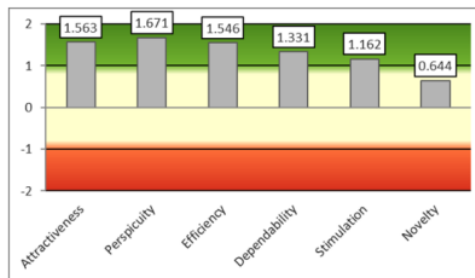


Figure 3. Graph of Mean Scores for UEQ Scales

Based on the data presented in Table 17 and Figure 3, it can be observed that the attractiveness scale, perspicuity scale, efficiency scale, dependability scale, and stimulation scale of the OVO application are in the green area, indicating positive evaluation scores. On the other hand, the novelty scale is in the yellow area, indicating a neutral evaluation score.

Table 22. The mean scores for each UEQ item

Item	Mean	4 Left	4 Right
ATT1	1.5	menyusahkan	menyenangkan
PER1	1.8	tak dapat dipahami	dapat dipahami
NOV1	1.0	kreatif	monoton
PER2	1.6	mudah dipelajari	sulit dipelajari
STI1	1.5	bermanfaat	kurang bermanfaat
STI2	0.7	membosankan	mengasyikkan
STI3	1.2	tidak menarik	menarik
DEP1	0.9	tak dapat diprediksi	dapat diprediksi
EFF1	1.4	cepat	lambat
NOV2	0.3	berdaya cipta	konvensional
DEP2	1.6	menghalangi	mendukung
ATT2	1.8	baik	buruk
PER3	1.5	rumit	sederhana
ATT3	1.4	tidak disukai	mengembirakan
NOV3	0.7	lazim	terdepan
ATT4	1.6	tidak nyaman	nyaman
DEP3	1.5	aman	tidak aman
STI4	1.2	memotivasi	tidak memotivasi
DEP4	1.3	memenuhi	tidak memenuhi
EFF2	1.5	ekspektasi	ekspektasi
PER4	1.8	tidak efisien	efisien
EFF3	1.8	tidak praktis	mbingungkan
EFF4	1.5	terorganisasi	praktis
ATT5	1.4	atraktif	tidak atraktif
ATT6	1.8	ramah pengguna	tidak ramah pengguna
NOV4	0.7	konvensional	inovatif

Based on Table 23, it can be observed that all UEQ items received positive evaluations except for item STI2 (boring/engaging), item NOV2 (conventional/innovative), item NOV3 (ordinary/leading), and item NOV4 (conservative/innovative) which received neutral evaluations..

Table 23. Benchmark Results

Scale	Mean	Comparison to benchmark
Attractiveness	1.56	Above Average
Perspicuity	1.67	Above Average
Efficiency	1.55	Good
Dependability	1.33	Above Average
Stimulation	1.16	Above Average
Novelty	0.64	Below Average

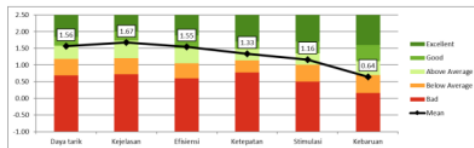


Figure 4. Benchmark Results Graph

Based on Table 24 and Figure 4, the benchmark results indicate that the efficiency scale is rated "Good". The

attractiveness, perspicuity, dependability, and stimulation scales are rated as "Above Average". However, the novelty aspect is still rated as "Below Average".

Descriptive statistical analysis using the System Usability Scale (SUS) method in this study involved calculating the average or mean SUS scores. However, before conducting the descriptive statistical analysis, data transformation is necessary using the rules of the SUS method. After the data transformation, the average or mean SUS scores can be assessed. From the final scores, it can be determined whether the system is rated as good or not. The following are the results of calculating the average or mean SUS scores using the rules of the SUS method:

Table 24. Summary of SUS Score Calculation Results

R	Calculated Score		R	Calculated Score	
	Total	Score		Total	Skor
1	29	72.5	75	38	95
2	33	82.5	76	20	50
3	40	100	77	40	100
4	40	100	78	22	55
5	30	75	79	32	80
6	30	75	80	28	70
7	26	65	81	37	92.5
8	29	72.5	82	37	92.5
9	29	72.5	83	30	75
10	28	70	84	36	90
11	30	75	85	34	85
12	33	82.5	86	20	50
13	35	87.5	87	37	92.5
14	34	85	88	23	57.5
15	28	70	89	28	70
16	36	90	90	34	85
17	34	85	91	29	72.5
18	34	85	92	24	60
19	28	70	93	40	100
20	39	97.5	94	35	87.5
21	40	100	95	35	87.5
22	40	100	96	35	87.5
23	38	95	97	36	90
24	34	85	98	33	82.5
25	32	80	99	40	100
26	18	45	100	26	65
27	40	100	101	25	62.5
28	26	65	102	30	75
29	25	62.5	103	33	82.5
30	28	70	104	30	75
31	31	77.5	105	19	47.5
32	29	72.5	106	32	80
33	23	57.5	107	28	70
34	36	90	108	36	90
35	24	60	109	24	60
36	39	97.5	110	29	72.5
37	34	85	111	21	52.5
38	26	65	112	35	87.5
39	26	65	113	36	90
40	33	82.5	114	26	65
41	36	90	115	37	92.5
42	29	72.5	116	40	100
43	26	65	117	28	70
44	30	75	118	40	100
45	32	80	119	32	80
46	35	87.5	120	25	62.5
47	34	85	121	40	100

R	Calculated Score		R	Calculated Score	
	Total	Score		Total	Skor
48	35	87.5	122	37	92.5
49	29	72.5	123	32	80
50	33	82.5	124	37	92.5
51	35	87.5	125	35	87.5
52	31	77.5	126	31	77.5
53	36	90	127	25	62.5
54	38	95	128	20	50
55	40	100	129	18	45
56	29	72.5	130	31	77.5
57	34	85	131	20	50
58	25	62.5	132	30	75
59	36	90	133	31	77.5
60	24	60	134	20	50
61	26	65	135	16	40
62	27	67.5	136	20	50
63	26	65	137	36	90
64	33	82.5	138	35	87.5
65	34	85	139	28	70
66	33	82.5	140	20	50
67	34	85	141	39	97.5
68	38	95	142	33	82.5
69	26	65	143	34	85
70	28	70	144	34	85
71	30	75	145	29	72.5
72	40	100	146	33	82.5
73	25	62.5	147	26	65
74	29	72.5	148	22	55

Average SUS score
77.53

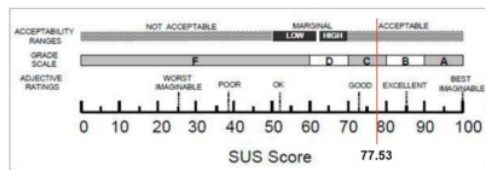


Figure 5. SUS Score Value [20]

Table 25 and Figure 5 summarize SUS score calculations from the questionnaires distributed to 148 respondents, resulting in an average or mean score of 77.53 according to the System Usability Scale (SUS) method.

After obtaining the SUS score, the next step is interpreting the results. There are three perspectives to determine the interpretation of the SUS score calculations:

a. Acceptability

Acceptability ranges consist of three levels: not acceptable, marginal (low and high), and acceptable. Acceptability is used to assess the level of user acceptance of the application.

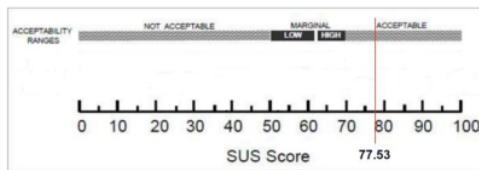


Figure 6. Acceptability Ranges

In the calculation of the SUS score, the previously obtained score was 77.53, indicating that the user acceptance level of the OVO application is categorized as "ACCEPTABLE".

b. Grade

The grade scale consists of A, B, C, D, and F, which are used to determine the grade level of the application.

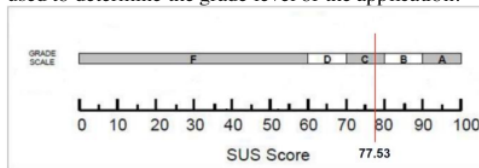


Figure 7. Grade Scales

In the calculation of the SUS score, the previously obtained score was 77.53, indicating that the OVO application falls under the "C" grade.

c. Adjective

Adjective ratings consist of the categories worst imaginable, poor, ok, good, and best imaginable. Adjective ratings are used to determine the rating of the application.

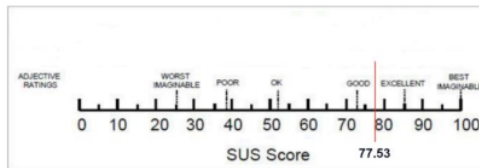


Figure 8. Adjective Ratings

In the calculation of the SUS score, the previously obtained score was 77.53, indicating that the OVO application falls under the "GOOD" category.

E. Improvement Recommendations

Based on the evaluation of user experience conducted using the User Experience Questionnaire (UEQ) method, processed using UEQ Data Analysis Tool Version 12, the following recommendations can be given for the OVO application:

- a. Provide more innovative, cutting-edge, and creative services or features in the OVO application, such as adopting new and innovative features that align with the current trends. It will help improve novelty, ensuring

- the application stays up-to-date and provides a unique user experience.
- b. Offer more engaging services or features in the OVO application, such as incorporating gamification elements to earn OVO Points or adding captivating animations and enjoyable sound effects. It will enhance the stimulation aspect, making the user experience more enjoyable and interactive.

4. Conclusion

The user experience and usability evaluation using the User Experience Questionnaire (UEQ) and System Usability Scale (SUS) has been successfully conducted, involving 148 competent respondents who assessed the application based on gender, age, duration of usage, and frequency of usage. The benchmark results for the six aspects of UEQ show that one aspect, efficiency, falls into the "good" category with a mean value of 1.55. Additionally, four aspects, namely attractiveness (mean: 1.56), perspicuity (mean: 1.67), dependability (mean: 1.33), and stimulation (mean: 1.16), are classified as "above average" categories. However, one aspect, novelty, falls into the "below average" category with a mean value of 0.64. Regarding the measurement of OVO application usability using the System Usability Scale (SUS) method, the obtained score is 77.53. This score falls within the "Acceptable" range in the Acceptability Ranges category, a "C" grade in the Grade Scale category, and is rated as "Good" in the Adjective Ratings category.

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