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Usability Evaluation of Tokopedia Application Version 3.242 Using System Usability Scale (SUS) Method

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Abstract: Indonesia is currently experiencing rapid growth in the *e-commerce* sector. Its One of the existing e-commerce is the Tokopedia application, Users of this application reach more than 10 million users so that there are a lot of positive and negative reviews given by users. After manually analyzing there are still many negative reviews on the application, not only that, there are still other problems found such as expeditions that cannot be selected, then payment methods that cannot COD or pay on the spot, and sometimes force closes that come out by themselves suddenly. Therefore, researchers tried to conduct a study on Tokopedia application user satisfaction with the SUS method to measure the level of usability of the application. System Usability Scale (SUS) method to evaluate its usability aspect. The evaluation results showed that the app earned an SUS score of 55, with a percentile rank of about 30%, placing it at grade D. Although still above average, the slight difference with the standard SUS score (68) indicates a potential improvement. In interpretation based on nature (Adjective), the application is in the OK category, with the level of acceptance (Acceptable) is in the Marginal category. The Net Promoter Score (NPS) results show the Detractor category, indicating a tendency to lack user enthusiasm for the application. Further evaluation is needed to identify aspects of usability that affect user perception and cause unsatisfactory NPS categories. Future research can design improvement strategies based on these findings, with the aim of increasing SUS scores and changing the NPS category to be more positive

Keywords: Usability, System Usability Scale (SUS), Net Promoter Score (NPS), Tokopedia application version 3.242, User Evaluation.

INTRODUCTION

Indonesia is currently undergoing a transformative phase in its *e-commerce* experiencing an unprecedented surge in growth compared to preceding years. The e-commerce landscape has become a pivotal force, allowing both businesses and individuals to engage in the seamless exchange of goods through online platforms. As the internet becomes the nexus for commercial transactions, online shopping has emerged as the predominant choice for a considerable number of Indonesians.

The advent of information and communication technology has played a pivotal role in fortifying online trading systems, particularly through the proliferation of electronic commerce (Sembodo et al., 2021) In Indonesia, several marketplaces have risen to dominance, including Shopee, Lazada, Bukalapak,Tokopedia, Blibli, JD.id, and others. Among these, Tokopedia has carved a distinctive niche

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and stands out amidst the crowded e-commerce industry (Handoyo, 2023) the growth of e-commerce in Indonesia encourages Tokopedia to enter today's crowded industry.

The exponential growth of e-commerce in Indonesia has motivated Tokopedia to assert its presence and vitality in this dynamic and competitive environment. Tokopedia, as an indigenous online shopping platform, has garnered substantial popularity among the diverse population of Indonesia. According to Similarweb data from the first quarter of 2021, Tokopedia claimed the top spot as the most visited marketplace on the internet. Launched in 2009 under the banner of PT. Tokopedia, this platform is the brainchild of William Tanuwijaya and Leontinus Alpha (Sasmita et al., 2021)

The Tokopedia application has been downloaded by 10 million users with 6 million reviews. But from these 6 million reviews, the Tokopedia application only gets 4.6 twigs or stars. Quoting from several reviews from the Play Store, there are features that are error or cannot be used. According to Farida Kurnia Sari, one of the wishlist features is missing on the cart menu, then those in the cart can delete automatically without clicking the recycle bin icon. Then according to Brenden Limanto for the application often freezes, when you want to shop and go out by yourself while the discount is suddenly lost and and returned after payment.

From some of the *feedback* reviews above, it can be concluded that there are many negative reviews on the Tokopedia application, not only on wishlist and cart features that cannot be used but there are still other problems found such as expeditions that cannot be selected, then payment methods that cannot COD or pay on the spot, and sometimes *force close* which came out on its own abruptly. So researchers try to conduct research with the satisfaction of Tokopedia application users.

This study uses the *System Usability Scale (SUS*) method chosen as a measurement method because it emphasizes the end user in testing, thus providing a perspective that is in accordance with the actual experience felt by the user (Lupita Dyayu et al., 2023) Data collection is also carried out by distributing questionnaires that are widely used to assess the level of usability of a system or application (Kholifah et al., 2023)

This study aims to evaluate the usability of the Tokopedia application, by involving measuring the level of ease, speed, error, and user satisfaction. This assessment includes the extent to which the application interface is easy to use, how responsive the application is to user actions, error or bug rates, and how satisfied users are with the experience of using Tokopedia.

LITERATURE REVIEW

Before conducting this research, researchers have found several similar studies on the use of the SUS method, this is used to add insight and strengthen this research, the first research was conducted (Husaen &; Widodo, n.d.), the studies conducted on the application version 4 to measure the level of usability. The tool used to measure Usability is the *System Usability Scale* method. The results of the study can describe the level of *Usability* of Protect Application version 4 from the user's point of view. Obtained *a System Usability Scale* score with an average score of 70.8. The value states that the application version 4 is included in the *C Grade*, the *Adjective* is OK, the acceptance level is *Marginal*, and *the Net Promotore Score (NPS)* is *passive*. That Usability analysis on the application version 4 using the *System Usability Scale (SUS)* method can be accepted by the public or application users

The second study was conducted by (Huda et al., 2023), this study analyzes the usability and user satisfaction of the Shopee application using the *System Usability Scale (SUS)* method. The results showed that the speed of the application affects user satisfaction, while the quality of information, features, and completeness of seller and buyer pages is satisfactory. For the average score or final result of SUS which is 76, it is categorized as *Acceptable* (high acceptance rate). The advantage of this research is that research methods include literature boxing, exploration of application features, and usability testing.

The third study was conducted by (Soejono et al., 2018), this study was conducted by giving 2 sets of questionnaires to two groups of respondents. The first questionnaire uses the original questions from the SUS method, while the second questionnaire treats the SUS method by adding reasons. With a value obtained of 51.25 using the original SUS method, while using the SUS Treatment method of 58.375. indicates that the UNRIYO website is unacceptable to users in terms of its Usability. The difference in

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this study uses the *Alpha Cronbach* method as a questionnaire validation and reliability test tool, as a commarative test tool using *One Way Anova.*

The fourth study was conducted by (Arroofi et al., 2019), results of the evaluation of Usability aspects along with the problems that exist on the XYZ website in order to maintain and improve the achievement of XYZ e-commerce. Usability aspects that will be evaluated are learnability, *effectiveness, efficiency and satisfaction*. This study used the *Cognitive Walkthrough* and *Usability Testing* methods conducted by five XYZ users.

The fifth study was conducted by (Felicia et al., 2023), This study found that Sambara application has a decent level of usability, although it has a weakness in terms of user recommendations to others. Usability measurement methods used, namely System Usability Scale (SUS) and USE Questionnaire, proved to be valid for Sambara application.

The sixth study was conducted by (Defriani et al., 2021), usability testing using the Cognitive Walkthrough and System Usability Scale (SUS) methods on the STT Wastukancana website shows a high level of learning and effectiveness, which is 96%. However, the website's efficiency was recorded at 0.07 seconds, and the satisfaction aspect had an SUS score of 86.25. Although the STT Wastukancana website is good, it still requires interface and system improvements. Recommendations for improvement include adding a search menu, putting important information on the home page, completing empty content and improving photo quality.

METHOD

This research involves a series of stages designed to establish a clear structure and facilitate the implementation of research. The stages of this research are described in the following figure.

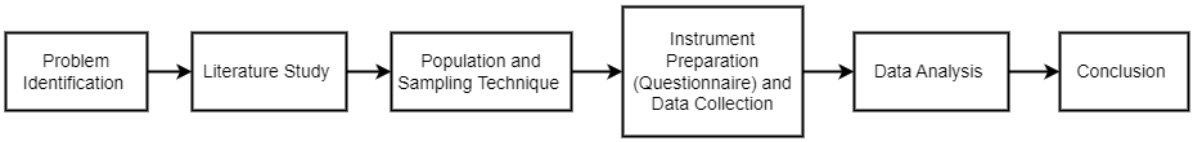

Figure 1. Research Methods

Problem Identification

At the problem formulation stage, researchers make observations of existing problems, evaluate directly by observing, researching and reviewing aspects related to the Tokopedia application 3,242. After the observation stage, researchers then conduct research related to the methods to be used in research. The subject of the study is the Tokopedia application 3,242, with the object of research focused on the *Usability* aspect or usability of the application. The purpose of this study is to evaluate the extent of usability in the Tokopedia application version 3.242 so that it can meet user expectations.

Literature Study

A literature study is needed to evaluate previous research that has been done, so as to provide guidelines and a basis for this research. This process involves finding a theoretical foundation that is in accordance with the topic and research method, using information sources from journals, articles, books and previous thesis reports to support the formulation of the theory to be used.

Population and Sampling Technique

This stage aims to determine the sample population, as well as the sampling strategy to be used during the study. The population that is the focus of this study is users of the Tokopedia application version 3,242. The sampling technique in this study is *simple random sampling*, where random sampling is carried out on users of the Tokopedia application version 3,242 (amikom students) who have made updates. In other words, all Tokopedia application users who have upgraded to version 3,242 become part of the sample to be studied.

Instrument Preparation (Questionnaire) and Data Collection

In this stage, a questionnaire is prepared as an instrument for research data collection. The instrument used is a questionnaire consisting of three parts, namely questions about respondent profiles, general questions about users of the Tokopedia application version 3.242, and finally the *System Usability Scale (SUS)* questionnaire with 10 questions as listed in Table 1.

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The *System Usability Scale (SUS)* questionnaire appliesa *Likert* scale with 5 points. Respondents were asked to rate 10 SUS questions with options of "Strongly Disagree", "Disagree", "Undecided", "Agree ", and "Strongly Agree" according to their judgment. If respondents find it difficult to find the right option, respondents are asked to fill in the midpoint on the testing scale (Brooke, 2020).

Table 1. Question System Usability Scale (SUS)

No.	Question
1.	I think I will use this system again.
2.	I find the system complicated to use.
3.	I find the system easy to use.
4.	I need help from others or the latest in using this system.
5.	I feel that the features of this system work properly.
6.	I feel there are many inconsistencies in the system.
7.	I feel others will understand how to use this system quickly.
8.	I feel the system is confusing
9.	I feel that there is no obstacle in using this system
10.	I need to get used to it before using this stem.

At this stage, it is done by distributing questionnaires online or indirectly. The questionnaire was distributed through several social media, such as Instagram and WhatsApp to Amikom Purwokerto students who have used or updated the Tokopedia 3,242 application. The questionnaire was created and filled out using *Google Forms* while the distribution was carried out from November 1 to November 17, 2023. The sample obtained during the distribution of the questionnaire was 30 respondents. Determination of sample size using *Roscoe* theory which states that the feasible sample provisions in research are between 30 to 500 (Nurhasanah & Harapan, 2022)

After the dissemination of the SUS questionnaire and receipt of assessments from respondents regarding the ten questions in the questionnaire, the next step is to run the calculation process for the data. In this stage, there are rules that must be followed in calculating the SUS score.

1. on odd questions, the score is obtained by subtracting 1 from the user rating (User rating – 1 = Question score). While on even questions, the score can reduce the user rating from 5 (5 – User rating – Question score).
2. the total score per respondent is calculated multiplied by 2.5 ([Question score 1] + [Question score 2] +... + [Question score n] *2.5 = Respondent score.
3. all respondent scores that have been calculated in steps 1 and 2 are added up, and the average is calculated (Total respondent score) / Number of respondents = SUS Score Result.

The next step is to interpret the results of the SUS score. In interpreting the results of the SUS score, there are five ways that can be used, namely based on the comparative interpretation of percentile rank, rank, nature, acceptance rate and *NPS (Net Promoter Score*) of the *SUS* score (Bangor & Miller, 2009). The interpretation scale image can be seen in Figure 2 below.

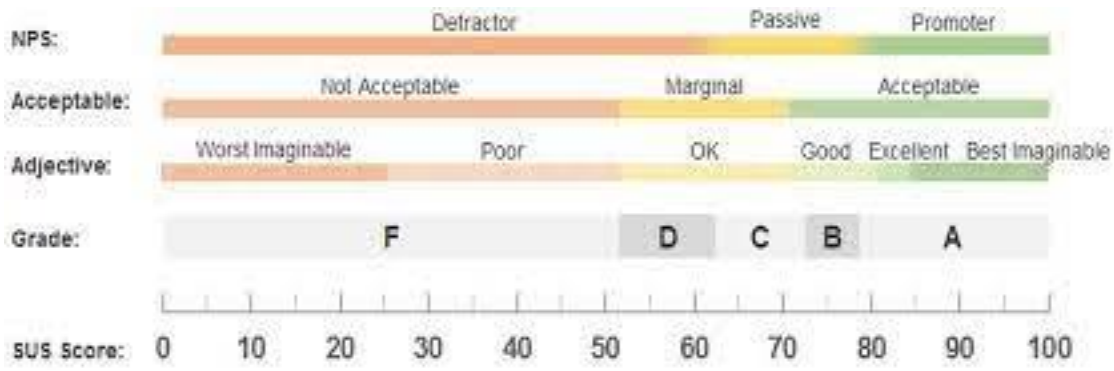

Figure 2. SUS Score Results Interpretation Scale

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There is also a table of s when interpreting the results of the US S score in Figure 2, in Table 2 below.

Table 2. SUS Score Results Interpretation Scale

Grade	*SUS*	*Percentile range*	*Adjective*	*Acceptable*	*NPS*
A+	84.1 – 100	96 – 100	*Best Imaginable*	*Acceptable*	*Promoter*
A	80.8 – 84.0	90 – 95	*Excellent*	*Acceptable*	*Promoter*
A-	78.9 – 80.7	85 – 89		*Acceptable*	*Promoter*
B+	77.2 – 78.8	80 – 84	*Good*	*Acceptable*	*Passive*
B	74.1 – 77.1	70 – 79		*Acceptable*	*Passive*
B-	72.6 – 74.0	65 – 69		*Acceptable*	*Passive*
C+	71.1 – 72.5	60 – 64		*Acceptable*	*Passive*
C	65.0 – 71.0	41 – 59		*Marginal*	*Passive*
C-	62.7 – 64.9	35 – 40	*OK*	*Marginal*	*Passive*
D	51.7 – 62.6	15 – 34		*Marginal*	*Detravtor*

If the interpretation of the SUS score results can be done using five different approaches (Melo et al., 2023) Here's the explanation:

Percentiels Rank

To convert SUS scores into percentile ranks, a tool in the form of a curve graph is used, as shown in Figure 3. This curve was developed by J. Sauro who made observations of more than 5000 SUS objects (Lewis & Sauro, 2009)

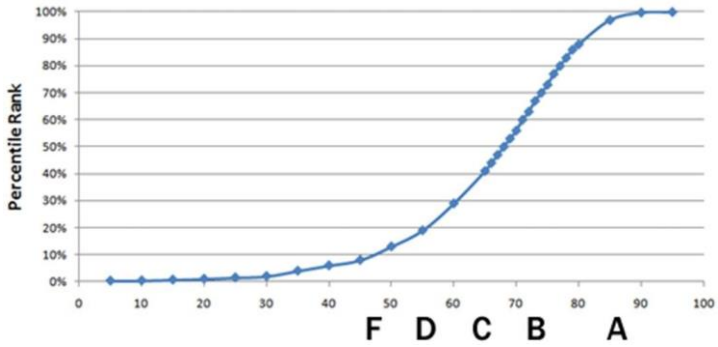

Figure 3. Sauro Curve Grafik

An example of applying the Sauro curve graph is seen in Figure 4, where an SUS score of 68 *(grade C)* is equivalent to a 50% percentile rank.

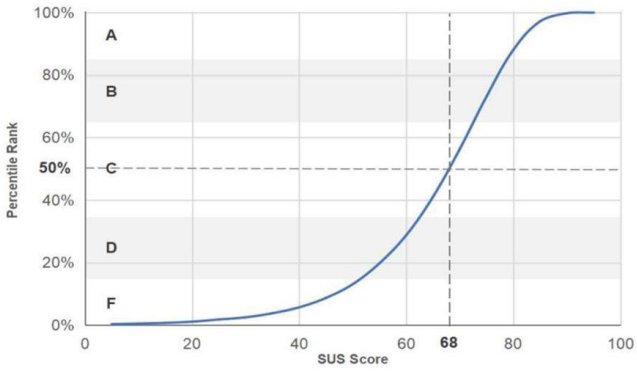

Figure 4. Example of SUS Score Results Percentile Value

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Grades

For ratings, the raw SUS score can be classified from A to F ratings, with A indicating excellent quality and F indicating very poor quality.

Adjectives

The raw SUS score can also be paired with one of six categories. Scores above 80 are considered Excellent, scores of 72 and above are in the good category, and 51 in the *OK* category.

Acceptance Rate

Another alternative in interpreting the raw SUS score is to consider its acceptance rate. Scores above 70 are considered "Acceptable", while scores of 50 and below are considered "Not Acceptable". Scores between 50 – 70 are considered "Marginally Acceptable", covering a range from C to D on the rating scale.

Net Promoter Score (NPS)

NPS, short for *Net Promoter Score*, is a survey that measures the level of user satisfaction and loyalty to a product by assessing how likely they are to recommend the product to others. NPS grouped respondents into three classes based on their responses to questions about the likelihood of recommending with *promoter* classes for scores 9 and 10, *passive* classes for scores 7 and 8, and *detractors* classes for scores 6 and below.

Data Analysis

In this phase, data analysis has been processed to show the hypothetical results of variables involving the *System Usability Scale (SUS)*. The results of data analysis show a positive influence between variables, so conclusions can be drawn from the results of this study, namely *Usability Evaluation* on the Tokopedia application version 3,242 using the *System Usability Scale (SUS)* Method, which focuses on measuring efficiency. This data was collected from Amikom Purwokerto students who have updated the Tokopedia application version 3.242. The use of *System Usability Scale (SUS*) as a usability evaluation method is considered to provide adequate results, especially in the context of a small sample size, as well as time and cost considerations (Kharis et al., 2017) The calculation generates an SUS score which will later be converted into a value that can help in the decision whether an application is feasible to implement or not. SUS is also used to assess the extent to which user experience factors can have a significant impact in assigning a high score to SUS scores.

Conclusion

The final step after analyzing the data and processing the data is to make a conclusion. At the conclusion stage, the research ends by summarizing the results obtained during the research and providing answers to the problem formulation. The conclusion also includes suggestions for the object being tested as well as recommendations for future research.

RESULT

In this study, the distribution of questionnaires received 50 respondents, this was due to the short time of research and the 50 respondents had answered the existing problems and all answers were valid, there was no double data. In addition, respondents were not disseminated only to a group of people, namely the information systems class of class 20 of Amikom Purwokerto University. Based on the respondent data that had been obtained, there were 24 (48%) male respondents and for female respondents 26 (52%) who were dominated by the age range of 20-24 years. Respondent data is also dominated by the Class of 2020, which is around 80% and for the Class of 2021 it is only 8%. Respondents who often make purchases are 44 respondents around 78.6%. Furthermore, a calculation will be carried out for each questionnaire data that has been collected from respondents. Hasil this calculation is recapitulated in Table 5. To give an overall picture.

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Table 3. Results of the SUS Score Calculation Process on the Tokopedia Application Version 3.242

Respond	Score Calculated Results		Respond	Score Calculated Results	
	Sum	Value		Sum	Value
R1	22	55	R26	24	60
R2	22	55	R27	25	62,5
R3	30	75	R28	27	67,5
R4	30	75	R29	24	60
R5	23	57,5	R30	26	65
R6	19	47,5	R31	30	75
R7	19	47,5	R32	20	50
R8	20	50	R33	21	52,5
R9	21	52,5	R34	26	65
R10	24	60	R35	27	67,5
R11	23	57,5	R36	21	52.5
R12	20	50	R37	22	55
R13	18	45	R38	16	40
R14	20	50	R39	10	25
R15	22	55	R40	17	42,5
R16	23	57,5	R41	30	75
R17	17	42,5	R42	16	40
R18	20	50	R43	22	55
R19	28	70	R44	22	55
R20	19	47,5	R45	27	67.5
R21	23	57,5	R46	20	50
R22	22	55	R47	22	55
R23	21	52,5	R48	21	52,5
R24	16	40	R49	29	72,5
R25	18	45	R50	18	45
Average System Usability Scale (SUS) Score					
55					

Based on the recapitulation results, it was found that the average *System Usability Scale (SUS)* score on the Tokopedia application version 3,242 was 55. These results invite interpretation of the data with reference to the scale set by Bangor for *SUS scores*, as illustrated in Figure 5. This interpretation can later provide further insight into the usability of the system and user satisfaction with the application.

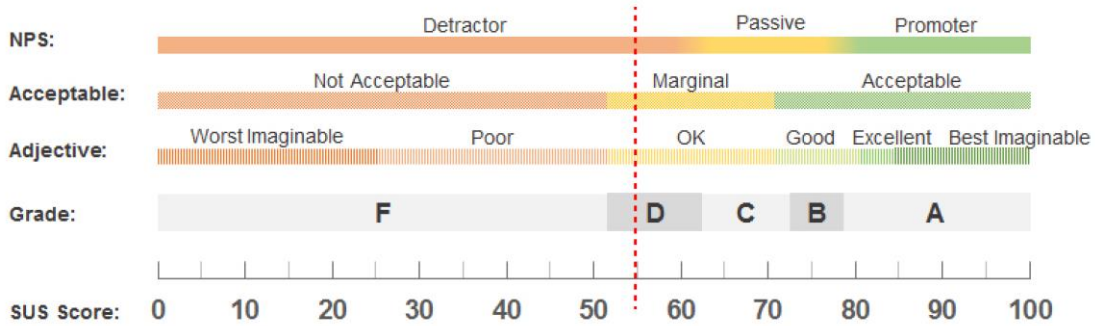

Figure 5. Results of SUS Score Interpretation on Tokopedia Application Version 3.242

By using the Sauro curve graph listed in Figure 6 below, the percentile rank for System Usability Scale (SUS) results in the Tokopedia application version 3,242 is 30%. This analysis provides an idea of the extent to which the degree of usefulness of such systems resides in the distribution of overall data and information.

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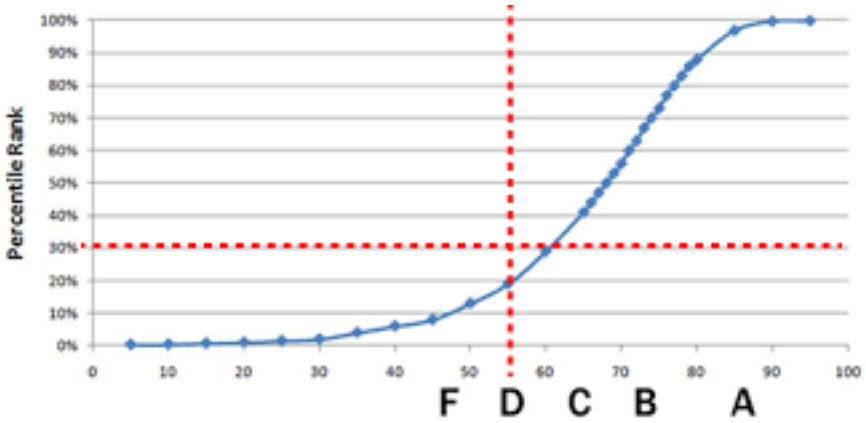

Figure 6. Percentile value of SUS score results on Tokopedia application version 3,242

More complete interpretation results can be seen in Table 4. The Tokopedia application version 3,242 is given a grade D score based on the aspect, with a System Usability Scale (SUS) score of 55 and a percentile rank of around 30%, although it is still far above the average, the difference is only slight with the standard SUS score which is at 68. From the approach based on nature (*Adjective)*, this application is included in the OK category, and the acceptance rate *(Acceptable)* is in the *Marginal* category, which means that in general this application can be accepted by users, especially students. It should be noted that interpretations based on *Net Promoter Score (NPS)* show Detractor results, which means users are less likely to reject or be unenthusiastic about Tokopedia version 3.242, but not specifically like it.

In other words, in terms of *Usability* and interpretation based on the nature of the application is still acceptable, but the NPS results show a tendency for users to be less enthusiastic about the application. This shows that there are certain aspects that need to be considered and improved so that the application can be more liked and recognized by users.

DISCUSSIONS

This study discusses the results of the evaluation of the Tokopedia application 3,242, several aspects need to be considered. First of terms of *Usability*, the app earned an SUS score of 55, placing it at grade D with a percentile rating of around 30%. Although still above average, the slight difference with the standard SUS score indicates a potential improvement in user experience. From the *adjective* approach, although this application is still included in the OK category, the acceptance rate that is in the *Marginal* category shows that there is room for improvement so that the application is more satisfying to users, especially among students who are the main target. This understanding is supported by the results of the NPS interpretation which shows the *Detractor* category, indicating that users tend to be less enthusiastic about the application.

Therefore, further evaluation is carried out to determine which aspects of *Usability*, which one most affects user perception and causes unsatisfactory NPS results. Furthermore, developers can plan improvement strategies based on these findings, with the aim of increasing the value of SUS and changing the NPS category to be more positive. In addition, it is important to listen to direct feedback from users to understand their needs and preferences. The iterative process of development and trials can help implement necessary improvements and improve overall user satisfaction. With this approach, Tokopedia application version 3.242 can experience a significant increase in user acceptance and satisfaction rates.

CONCLUSION

Based on the evaluation of the Tokopedia application version 3.242, several important conclusions can be drawn. Generally, the app has an SUS score of 55, placing it at grade D with a rating of around 30%. *Adjective* interpretations indicate OK, but Marginal acceptance indicates potential improvements in user experience. On the other hand, the *Net Promoter Score (NPS)* results that show the *Detractor* category indicate user for the application. In conclusion, although the Tokopedia application version

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3.242 has an acceptable level of usability, there is room for significant improvement, especially in increasing the level of user acceptance and enthusiasm. The next development process should focus on a deep understanding of user feedback, identifying crucial areas of improvement, and implementing appropriate strategies to improve the overall user experience. Thus, the application can optimize its potential and meet user expectations, supporting success and better acceptance among students and general users.

REFERENCES

Arroofi, M., Kusumah, A., Rokhmawati, R. I., & Amalia, F. (2019). *Evaluasi Usability Pada Website E-commerce XYZ Dengan Menggunakan Metode Cognitive Walkthrough dan System Usability Scale (SUS)*. *3*(5), 4340–4348.

Bangor, A., & Miller, J. (2009). *Determining What Individual SUS Scores Mean: Adding an Adjective Rating Scale*. https://uxpajournal.org/determining-what-individual-sus-scores-mean-adding-an-adjective-rating-scale/

Brooke, J. (2020). *SUS -- a quick and dirty usability scale SUS - A quick and dirty usability scale*. *January 1996*.

Defriani, M., Resmi, M. G., & Jaelani, I. (2021). *UJI USABILITY DENGAN METODE COGNITIVE WALKTHROUGH DAN SYSTEM USABILITY SCALE (SUS) PADA SITUS WEB STT WASTUKANCANA*. *4*, 30–39.

Felicia, Talita, A. S., & Umniati, N. (2023). *Analisis Usability Aplikasi Sambara Dengan Metode System Usability Scale Dan USE Questionnaire*. *10*(2), 215–227.

Handoyo. (2023). *Persaingan Menuju Profitabilitas Emiten E-Commerce, Simak Ulasan Serta Rekomendasinya*. https://investasi.kontan.co.id/news/persaingan-menuju-profitabilitas-emiten-e-commerce-simak-ulasan-serta-rekomendasinya

Huda, N., Habrizons, F., Satriawan, A., Iranda, M., & Pramuda, T. (2023). Analisis Usability Testing Menggunakan Metode SUS (System Usability Scale) Terhadap Kepuasan Pengguna Aplikasi Shopee. *Simkom*, *8*(2), 208–220. https://doi.org/10.51717/simkom.v8i2.158

Kharis, Santosa, P. I., & Winarno, W. W. (2017). *EVALUASI USABILITY PADA SISTEM INFORMASI PASAR KERJA MENGGUNAKAN SYSTEM USABLITY SCALE (SUS)*. 240–245.

Kholifah, S. N., Heryana, N., & Nugraha, H. B. (2023). *ANALISIS USABILITY PADA APLIKASI HIMFO MENGGUNAKAN METODE SYSTEM USABILITY SCALE (SUS) (STUDI KASUS HIMPUNAN MAHASISWA TEKNIK INFORMATIKA UNSIKA)*. *7*(2), 1416–1422.

Lewis, J. R., & Sauro, J. (2009). The factor structure of the system usability scale. *Lecture Notes in Computer Science (Including Subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)*, *5619 LNCS*, 94–103. https://doi.org/10.1007/978-3-642-02806-9_12

Lupita Dyayu, A., Beny, B., & Yani, H. (2023). Evaluasi Usability Aplikasi PeduliLindungi Menggunakan Metode Usability Testing dan System Usability Scale (SUS). *Jurnal Manajemen Teknologi Dan Sistem Informasi (JMS)*, *3*(1), 395–404. https://doi.org/10.33998/jms.2023.3.1.720

Melo, M., Gonçalves, G., & Bessa, M. (2023). *How Much Presence is Enough ? Qualitative Scales for Interpreting the Igroup Presence Questionnaire Score*. *11*(March). https://doi.org/10.1109/ACCESS.2023.3254892

Nurhasanah, S., & Harapan, A. A. (2022). *EVALUASI TINGKAT KESIAPAN PENGGUNA SISTEM SINGLE SIGN ON PADA PORTAL UNIVERSITAS ALMA ATA MENGGUNAKAN METODE TECHNOLOGY READINESS INDEX (TRI)*. *5*(1), 1–10.

Sasmita, A., Ambarita, Y. M., & Putri, A. M. (2021). Strategi Pemasaran Tokopedia dalam Persaingan Antar E-Commerce dengan Analisis SWOT. *Jurnal Pendidikan Tambusai*, *5*(2), 3397–3404. https://jptam.org/index.php/jptam/article/view/1403

Sembodo, F. G., Fitriana, G. F., & Prasetyo, N. A. (2021). Evaluasi Usability Website Shopee Menggunakan System Usability Scale (SUS). *Journal of Applied Informatics and Computing*, *5*(2), 146–150. https://doi.org/10.30871/jaic.v5i2.3293

Soejono, A. W., Setyanto, A., Sofyan, A. F., & Anova, W. (2018). *Evaluasi Usability Website UNRIYO Menggunakan S ystem Usability Scale (Studi Kasus : Website UNRIYO)*. *XIII*, 29–37.

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