



Comparative Usability and User Experience Analysis of Shopee, Tokopedia, and Lazada Using SUS and UEQ

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ABSTRACT

The rapid growth of e-commerce in Indonesia has intensified competition among platforms to deliver superior usability and user experience. Comparative studies that simultaneously evaluate the three major pure e-commerce platforms Shopee, Tokopedia, and Lazada by integrating the System Usability Scale (SUS) and the User Experience Questionnaire (UEQ) remain limited, particularly with rigorous statistical testing and explicit discussion of design-related explanations. This study aims to analyze and compare the usability and user experience of these applications based on users' perceptions and to generate diagnostic insights for interface improvement. A quantitative approach was employed using SUS and UEQ questionnaires distributed to 105 respondents who had experience using all three platforms and had completed at least one transaction within the last three months. SUS data were analyzed using Acceptability Range, Grade Scale, and Adjective Rating, while UEQ data were analyzed with the official UEQ Data Analysis Tool across six dimensions. Paired comparisons were performed with both Wilcoxon signed-rank tests and paired t-tests. The results indicate that Shopee achieved a SUS score of 76.81 (Acceptable, Grade B, Good), while Tokopedia scored 66.81 and Lazada 59.19 (both Marginal, Grade D, Poor). Differences among all pairs were statistically significant ($p < 0.001$). Shopee also obtained the highest mean scores across all six UEQ dimensions. The findings demonstrate that Shopee currently delivers the superior combined usability and user experience among the three platforms, while also revealing that all three applications still fall short of the higher UEQ benchmark categories, indicating clear opportunities for design refinement.

1. Introduction

In the midst of rapid digital transformation and the development of information technology, consumption patterns of Indonesian society have undergone a highly significant shift from conventional shopping activities toward the utilization of e-commerce platforms. This shift has not only changed societal habits but has also created a highly dynamic digital business ecosystem. Based on the latest survey from JakPat released by Dataloka in early 2026, the competitive map of marketplaces in Indonesia shows differences in preferences across generations; however, in general the market remains strongly dominated by major players such as Shopee, Tokopedia, and Lazada (Maheswara,

2026). According to the reported data, Shopee recorded the most even usage level, with 100% of business actors from Generation Z and Millennials using the application. Tokopedia continues to maintain its position as a stable platform with usage rates of 54% among Generation Z and 62% among Millennials. Meanwhile, Lazada remains relevant as one of the platform choices, with adoption rates reaching 26% among Generation Z and 40% among Millennials (Maheswara, 2026).

Although TikTok Shop shows large usage figures in the same dataset, this study deliberately excludes it because its application form is social commerce (social media with shopping features). Evaluating it together with pure e-commerce platforms would produce unbalanced metrics

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because the fundamental design purposes of the applications differ. Consequently, comparing Shopee, Tokopedia, and Lazada three pure e-commerce platforms that share comparable interface characteristics, usage goals, and interaction patterns yields a more methodologically coherent and apple-to-apple evaluation.

The intense competition among pure e-commerce platforms in 2026 demands that platform developers ensure that both functional quality and users' emotional comfort are fulfilled simultaneously. This optimization requires a comprehensive quality evaluation through the measurement of usability (ease of use) and user experience (the overall experience perceived by users). Usability evaluation focuses on learnability, efficiency, memorability, error rates, and satisfaction, while user experience evaluation captures broader emotional and hedonic dimensions of interaction (Schrepp, 2023).

In the mapping of previous research, quality measurement of applications has often been conducted separately. Research by Aisyah et al. (2025) focused on usability analysis using the System Usability Scale (SUS) to measure the functional efficiency level of the Shopee application. Meanwhile, Putra and Azam (2023) as well as Sakdiah et al. (2025) demonstrated that the integration of the System Usability Scale (SUS) and the User Experience Questionnaire (UEQ) is capable of producing a more comprehensive evaluation because it can measure both functional aspects and users' emotional experience simultaneously. Sofiyah (2025) applied both instruments to Tokopedia, while several other studies examined individual platforms without a simultaneous three-way pure-e-commerce comparison.

This study is specifically developed to expand and refine previous research conducted by Amelia (2025). In that study, the quality evaluation of e-commerce applications was performed on Shopee, Tokopedia, and TikTok Shop using only the SUS method. Although the study successfully provided an overview of the usability level of each application, the measurement remained limited to the usability aspect and had not yet integrated the UEQ method to measure user experience more comprehensively. In addition, the present study uses a different research object by replacing TikTok Shop with Lazada. The selection of Lazada is based on the consideration that TikTok Shop is a social commerce platform, whereas Shopee, Tokopedia, and Lazada are pure e-commerce platforms that possess more comparable characteristics, usage goals, and user interaction patterns.

The novel scientific contribution of this study can be articulated in three points. First, it provides an up-to-date (2026) simultaneous comparative evaluation of the three dominant pure e-commerce platforms in Indonesia using both SUS and UEQ, thereby generating a dual-method diagnostic profile that previous single-instrument or mixed-platform studies could not fully offer. Second, it applies rigorous paired statistical testing (Wilcoxon signed-rank and paired t-tests) to establish the significance of score differences, moving beyond purely descriptive ranking. Third, it links the empirical findings to established usability and user-experience

principles (learnability, efficiency, hedonic quality, and pragmatic quality) and situates the Indonesian results in relation to international e-commerce benchmarks, thereby producing actionable design insights rather than score rankings alone. These contributions directly address the scarcity of methodologically coherent, multi-dimensional, and statistically tested comparisons among pure e-commerce platforms in the current Indonesian market context.

Based on the background described above, the problems that can be identified are: (1) the resilience of Shopee, Tokopedia, and Lazada in maintaining market dominance is highly dependent on the quality of user experience within the applications; (2) there is still a lack of up-to-date and objective comparative usability score data among the three platforms using the standard SUS method accompanied by formal significance testing; (3) application evaluation analyses that have been conducted so far tend to focus only on functionality aspects without deeply considering users' emotional aspects (user experience); and (4) suggestions from previous research to use the UEQ method as a complementary evaluation have not yet been followed up in a three-way pure-e-commerce comparison that also discusses design-related explanations. Accordingly, this study formulates three research questions: (1) What are the usability scores of the Shopee, Tokopedia, and Lazada applications based on the SUS method in 2026, and are the differences statistically significant? (2) How is the quality of user experience on the three applications based on the six scales of the UEQ method? (3) Which e-commerce application has the best performance based on the results of usability and user experience analysis using the SUS and UEQ methods, and what design-related factors may explain the ranking?

The objectives of the study are therefore: (1) to measure and analyze the usability level of Shopee, Tokopedia, and Lazada using SUS and to test the significance of score differences; (2) to analyze the quality of user experience on the three applications based on the six scales of the UEQ method; and (3) to determine the e-commerce application that has the best performance and to discuss the findings in relation to usability theory, interface characteristics, and international comparisons.

The scope of this research focuses on a comparative evaluation of usability levels using the SUS method and user experience using the UEQ method on the latest 2026 mobile versions of the Shopee, Tokopedia, and Lazada applications. TikTok Shop is not included because it is categorized as social commerce rather than a pure e-commerce platform. Research data were collected through questionnaires distributed to respondents meeting the criteria of active users in Indonesia who had transacted at least once within the last three months. The evaluation boundary focuses fully on the analysis of the user interface and the main navigation flow in carrying out the core shopping functions of the applications.

2. Research Methods

2.1 Research Stages

The research was conducted through several sequential stages. The first stage was problem identification and literature review related to e-commerce, usability, SUS, user experience, and UEQ. The second stage was the formulation of research questions, objectives, and scope. The third stage was the preparation of research instruments, namely the SUS questionnaire (10 items) and the UEQ questionnaire (26 items), which were adapted into the Indonesian language while preserving the original measurement scales. The fourth stage was the determination of population and sample criteria, followed by the distribution of online questionnaires via Google Forms. The fifth stage was data collection, cleaning, and verification of respondent eligibility. The sixth stage consisted of validity and reliability testing of the instruments. The seventh stage was the calculation of SUS scores and UEQ scale means, including benchmark comparison and formal statistical testing of differences. The final stage was the interpretation of results, comparative analysis linking findings to theory and design characteristics, and the drawing of conclusions and recommendations.

2.2 Research Instruments

Two standardized instruments were employed. The System Usability Scale (SUS) is a 10-item questionnaire originally developed by Brooke and widely recognized as a reliable instrument for capturing users' subjective assessment of system usability (Brooke, 2020). Each item is rated on a five-point Likert scale from 1 (Strongly Disagree) to 5 (Strongly Agree). Odd-numbered items are positively worded, while even-numbered items are negatively worded. The final SUS score is obtained through a specific conversion formula that produces a value ranging from 0 to 100. Interpretation of the score utilizes three complementary parameters: Acceptability Range (Not Acceptable / Marginal / Acceptable), Grade Scale (A–F), and Adjective Rating (Worst Imaginable, Poor, OK, Good, Excellent, Best Imaginable) (Yani et al., 2025). The conventional average (benchmark) SUS score is 68; scores above this value generally indicate good usability (Yani et al., 2025).

The User Experience Questionnaire (UEQ) consists of 26 bipolar items that measure six scales of user experience: Attractiveness (overall impression), Perspicuity (ease of understanding and learning), Efficiency (effortlessness of task completion), Dependability (feeling of control and predictability), Stimulation (motivation and excitement), and Novelty (innovativeness and creativity of the design). Each item is rated on a seven-point semantic differential scale. Scale means are calculated using the official UEQ Data Analysis Tool, and the resulting values are compared against the published UEQ benchmark categories (Excellent, Good, Above Average, Below Average, Bad) (Schrepp, 2023).

2.3 Research Variables and Indicators

The independent variables in this study are the three e-commerce applications under evaluation (Shopee, Tokopedia, and Lazada). The dependent variables are the usability level measured by SUS and the user experience quality measured by the six UEQ scales. SUS indicators follow the ten standard statements covering aspects of desire to use the system frequently, complexity, ease of use, need for technical support, integration of functions, consistency, learnability, cumbersome, confidence, and the amount of learning required before use. UEQ indicators follow the 26 standard bipolar pairs distributed across the six scales mentioned above.

2.4 Population and Sample

The population of this study comprises Indonesian users of the Shopee, Tokopedia, and Lazada mobile applications. A purposive sampling technique was employed because the research required respondents who possessed recent, comparable transactional experience with all three platforms. This criterion is essential for a within-subject comparative design: only users who have actually performed core shopping tasks on each application can provide meaningful paired evaluations. Inclusion criteria were therefore strictly defined as: (1) respondents had used all three applications; (2) respondents had completed at least one transaction on each application within the last three months; and (3) respondents were willing to complete the full set of SUS and UEQ questionnaires for each application. Respondents who did not meet any of these conditions were excluded during data cleaning.

A total of 105 valid responses meeting all criteria were obtained. The sample size of 105 was chosen for three reasons: (1) methodological literature indicates that stable SUS mean estimates can be obtained with approximately 50–100 users; (2) for paired statistical tests (Wilcoxon and paired t-tests), $n = 105$ provides adequate power to detect medium-to-large effect sizes at $\alpha = 0.05$; and (3) the size is comparable to or larger than those used in recent Indonesian SUS–UEQ e-commerce studies. Nevertheless, the sample was dominated by respondents aged 17–25 years (64.8%) and students (58.1%). Findings are therefore most generalizable to digitally active younger users (Generation Z and young Millennials). Extrapolation to older age groups should be made with caution.

2.5 Data Collection Methods

Data were collected through two complementary methods. First, a literature study was conducted to build the theoretical foundation and to identify relevant previous research. Second, primary data were gathered by distributing online questionnaires (Google Forms) containing demographic questions, the 10-item SUS instrument, and the 26-item UEQ instrument for each of the three applications. Respondents were required to evaluate each application separately so that paired comparative data could be obtained. The questionnaire

was open for a defined period, after which responses were screened for completeness and eligibility.

2.6 Instrument Validity and Reliability

Both instruments have established construct validity from extensive prior research. The SUS is widely validated across languages and domains (Brooke, 2020; Yani et al., 2025), while the UEQ is supported by an official analysis tool and international benchmark database (Schrepp, 2023). In this study, Indonesian adaptations retained the original item structure. Item validity was further confirmed using Pearson correlation (critical r -table = 0.192, $n = 105$, $\alpha = 0.05$); all SUS and UEQ items met the criterion. Reliability was assessed with Cronbach's Alpha (threshold ≥ 0.70). Separate pilot testing was not required because both instruments are already standardized.

2.7 Data Analysis Methods

After the instruments were confirmed to be valid and reliable, SUS scores were calculated for each respondent and then averaged per application. The mean scores were interpreted using Acceptability Range, Grade Scale, and Adjective Rating. UEQ data were entered into the official UEQ Data Analysis Tool to obtain scale means, variances, and benchmark classifications for each application. Because each respondent evaluated all three applications, the design is within-subject (paired). Differences in SUS scores were therefore tested with both the non-parametric Wilcoxon signed-rank test and the parametric paired-samples t -test. The Wilcoxon test was included because SUS score distributions in usability studies are frequently non-normal; the paired t -test was reported in parallel to provide a conventional parametric reference. Statistical significance was evaluated at $\alpha = 0.05$. Effect-size orientation was considered by examining the magnitude of mean differences relative to the established SUS benchmark of 68. Finally, a comparative synthesis integrating SUS and UEQ results was performed to answer the three research questions and to determine the application with the best overall performance.

3. Result and Discussion

3.1 Respondent Demographics

A total of 105 respondents completed the full set of questionnaires for Shopee, Tokopedia, and Lazada. The demographic profile shows that 75 respondents (71.4%) were female and 30 respondents (28.6%) were male (Figure 1). In terms of age, the majority belonged to the 17–25 years group (68 respondents, 64.8%), followed by 26–45 years (16 respondents, 15.2%), under 17 years (13 respondents, 12.4%), and over 45 years (8 respondents, 7.6%).

105 responses

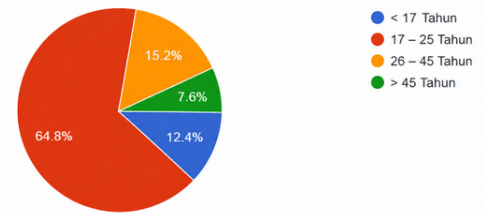


Figure 1. Respondent demographics (age)

Regarding occupation, students constituted the largest group (61 respondents, 58.1%), followed by private-sector employees and civil servants (27 respondents, 25.7%), while the remainder consisted of entrepreneurs, housewives, teachers, freelancers, and other occupations. These characteristics indicate that the sample largely represents the digitally active younger population (Generation Z and young Millennials) that frequently engages in online shopping through mobile applications. The demographic distribution supports the external validity of the findings within the context of Indonesian mobile e-commerce users, particularly among Generation Z and young Millennials who constitute the primary market segment for the three platforms under study. At the same time, the concentration of younger respondents is acknowledged as a limitation that constrains generalization to older user cohorts.

3.2 Validity and Reliability Testing

Validity testing was performed on all SUS and UEQ items for each application using Pearson product-moment correlation (item–total correlation). The critical r -table value at the chosen significance level ($n = 105$, $\alpha = 0.05$) was 0.192. The results showed that every item on the SUS instruments for Shopee, Tokopedia, and Lazada produced correlation coefficients higher than the critical r -table value (all items valid). The same procedure applied to the 26 UEQ items for each application also confirmed that every item met the validity criterion (r -hitung $>$ r -tabel).

Reliability testing using Cronbach's Alpha produced the following coefficients for the SUS instruments: Shopee 0.91 (high reliability), Tokopedia 0.88, and Lazada 0.85. All values exceed the minimum threshold of 0.70, indicating that the SUS instruments possess good internal consistency. For the UEQ instruments, the Cronbach's Alpha coefficients were 0.938 for Shopee, 0.930 for Tokopedia, and 0.932 for Lazada. These very high coefficients demonstrate excellent internal consistency across all six UEQ scales for the three applications. Therefore, both the SUS and UEQ instruments used in this study are valid and reliable measurement tools, consistent with the established construct validity reported in the international literature.

3.3 System Usability Scale (SUS) Results

After the instruments were confirmed valid and reliable, SUS scores were calculated for each respondent and then averaged per application. Table 1 presents the

recapitulation of the final mean SUS scores together with their categorical interpretations.

As shown in Table 1, Shopee obtained the highest mean SUS score of 76.81. This score places Shopee in the Acceptable range of the Acceptability Range, corresponds to Grade B on the Grade Scale, and receives the adjective rating Good. In contrast, Tokopedia obtained a mean score of 66.81 and Lazada a mean score of 59.19. Both scores fall into the Marginal range, correspond to Grade D, and receive the adjective rating Poor. The difference in scores indicates that respondents perceived Shopee as easier to learn, easier to use, more consistent, and more satisfactory overall than Tokopedia and Lazada. Shopee's score is also clearly above the conventional SUS benchmark of 68, while both Tokopedia and Lazada remain below that benchmark. To confirm whether these differences were statistically significant, paired comparisons were conducted. Because the design is within-subject, the Wilcoxon signed-rank test was applied as the primary non-parametric procedure, and the paired-samples t-test was reported in parallel. Results showed that the SUS score of Shopee was significantly higher than that of Tokopedia (Wilcoxon $p < 0.001$; paired t-test $p < 0.001$) and Lazada (Wilcoxon $p < 0.001$; paired t-test $p < 0.001$). The difference between Tokopedia and Lazada was also statistically significant (Wilcoxon $p < 0.001$; paired t-test $p < 0.001$). The consistent significance across both parametric and non-parametric tests strengthens confidence that the observed ranking (Shopee > Tokopedia > Lazada) is not attributable to chance. These findings answer the first research question concerning the usability scores of the three applications in 2026 and establish the statistical robustness of the ranking. When compared with previous studies, the Shopee SUS score of 76.81 is consistent with earlier reports that placed Shopee in the Good or Acceptable category (Aisyah et al., 2025). The lower scores of Tokopedia and Lazada suggest that, at least from the perspective of the present sample, certain aspects of learnability, efficiency, or interface consistency still require improvement relative to Shopee.

3.4 User Experience Questionnaire (UEQ) Results

UEQ data were processed using the official UEQ Data Analysis Tool. Table 2 presents the mean scores of the six UEQ scales for each application. Table 2 shows that Shopee obtained the highest mean on every UEQ scale. The highest means for Shopee appear on Attractiveness (1.170) and Perspicuity (1.126), indicating a strong overall impression and high perceived clarity. Efficiency (1.029) and Stimulation (0.895) are also relatively strong, while Dependability (0.845) and Novelty (0.626) remain positive but comparatively lower. Tokopedia occupies the intermediate position on all scales, with its strongest scale being Perspicuity (0.955) and its weakest being Novelty (0.562). Lazada records the lowest means on all six scales; its highest scale is Efficiency (0.569) and its lowest is Novelty (0.345).

Table 1. SUS Scores and Interpretation by Platform

Application	SUS Score	Acceptability	Grade	Adjective Rating
Shopee	76.81	Acceptable	B	Good
Tokopedia	66.81	Marginal	D	Poor
Lazada	59.19	Marginal	D	Poor

Table 2. UEQ Mean Scores by Platform

UEQ Scale	Shopee	Tokopedia	Lazada
Attractiveness	1.170	0.852	0.537
Perspicuity	1.126	0.955	0.512
Efficiency	1.029	0.907	0.569
Dependability	0.845	0.771	0.476
Stimulation	0.895	0.819	0.424
Novelty	0.626	0.562	0.345

Pekerjaan/Status
105 responses

[Copy chart](#)

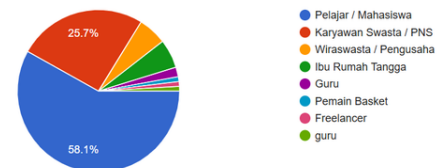


Figure 2. Comparison of UEQ mean scores

All scale means for the three applications remain in the positive range (greater than 0), which indicates that users generally evaluate the experience of each application as more positive than negative. Nevertheless, the magnitude of the differences clearly ranks Shopee first, Tokopedia second, and Lazada third on every measured dimension of user experience. These results answer the second research question concerning the quality of user experience based on the six UEQ scales.

3.5 UEQ Benchmark Comparison

In addition to absolute mean scores, the UEQ Data Analysis Tool provides a benchmark comparison against a large database of previous product evaluations. Table 3 summarizes the benchmark category of each scale for the three applications. The UEQ benchmark categories (Excellent, Good, Above Average, Below Average, Bad) are determined by the official UEQ Data Analysis Tool. These categories are based on a large database of previous product evaluations collected by the UEQ developers (Schrepp, 2023).

Table 3. UEQ benchmark categories for Shopee, Tokopedia, and Lazada

UEQ Scale	Shopee	Tokopedia	Lazada
Attractiveness	Below Average	Below Average	Bad
Perspicuity	Below Average	Below Average	Bad
Efficiency	Below Average	Below Average	Bad
Dependability	Below Average	Bad	Bad
Stimulation	Below Average	Below Average	Bad
Novelty	Below Average	Below Average	Below Average

No	Email Address	Nama Usahat	Jenis Kelamin	Usia	Pekerjaan/Status	SUS																																			
						1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
1	11224319@gmail.com	Rayana	Perempuan	17 – 25 Tahun	Pelajar / Mahasiswa	5	3	4	2	4	2	5	5	4	5	4	5	1	3	4	3	2	5	3	1	2	4	3	1	7	3	1	2	5	2	4	3	2	4	2	6
2	1229962@gmail.com	Izza	Laki-Laki	17 – 25 Tahun	Pelajar / Mahasiswa	5	2	5	2	4	2	3	1	5	1	7	7	5	6	5	6	5	6	5	7	6	4	7	4	6	5	3	6	6	7	6	6	6	7	6	
3	mddika1311@gmail.com	Maddika	Perempuan	17 – 25 Tahun	Pelajar / Mahasiswa	4	2	3	4	3	4	2	4	3	7	7	2	1	6	6	7	1	6	7	1	6	6	5	6	2	2	2	6	1	7	1	1	1	6		
4	maybay9713@gmail.com	Maybayen	Perempuan	17 – 25 Tahun	Pelajar / Mahasiswa	4	4	3	2	3	4	4	2	4	3	1	2	1	2	2	3	2	3	3	3	2	2	3	3	3	3	3	3	3	3	3	3	3	3	3	
5	vinapayay10@gmail.com	gasya	Perempuan	17 – 25 Tahun	Pelajar / Mahasiswa	3	1	5	1	4	2	4	2	4	2	5	2	4	5	4	5	4	5	4	5	4	5	4	5	4	5	4	5	4	4	4	4	4	5	3	
6	mayyad257@gmail.com	Isita	Perempuan	36 – 45 Tahun	Guru	5	1	5	1	3	1	3	1	3	1	7	7	1	1	7	7	1	1	7	1	7	7	7	7	7	7	1	1	7	1	7	1	1	1	3	
7	sarahputradewi76@gmail.com	Sarah Putra Dewi	Perempuan	17 – 25 Tahun	Ibu Rumah Tangga	4	2	4	3	4	3	4	2	4	3	5	6	4	5	4	3	6	4	6	7	5	7	6	5	6	5	7	5	7	5	6	4	4	2	4	
8	luluah-dillah9@gmail.com	Lulu	Perempuan	36 – 45 Tahun	Ibu Rumah Tangga	3	1	5	1	4	3	4	1	4	1	5	1	4	1	4	4	5	4	2	7	4	7	7	6	4	5	4	4	4	4	4	5	4	4	3	
9	syaddispa@gmail.com	A	Laki-Laki	<17 Tahun	Pelajar / Mahasiswa	5	2	5	1	5	1	5	1	5	1	7	7	1	1	7	7	1	7	7	1	7	7	7	7	7	1	1	7	1	7	1	1	1	1	7	
10	11220281@gmail.com	d	P	Perempuan	17 – 25 Tahun	Pelajar / Mahasiswa	5	3	4	2	3	4	2	3	3	6	6	5	6	6	6	5	5	6	6	6	6	6	6	6	6	6	7	7	7	6	6	7	6		
11	cahyun-abdelfahy3@gmail.com	Cahyun	Perempuan	36 – 45 Tahun	Karyawan Swasta / PNS	5	1	5	1	5	4	4	1	5	1	7	6	2	1	1	5	6	6	2	6	1	7	6	6	6	2	2	6	1	2	2	2	3	4		
12	thyayida@gmail.com	Ummah Rahman	Perempuan	36 – 45 Tahun	Ibu Rumah Tangga	3	3	4	3	3	3	3	3	3	3	4	7	1	1	1	7	7	7	1	1	7	7	7	7	1	7	1	7	1	7	1	1	1	7		
13	seubeth17@gmail.com	RZ	Perempuan	17 – 25 Tahun	Ibu Rumah Tangga	5	1	3	1	4	3	4	2	4	2	6	6	2	2	6	6	3	3	3	4	2	4	3	3	6	4	5	3	2	3	3	3	2	4		
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15	mutmahm31@gmail.com	mut	Perempuan	17 – 25 Tahun	guru	5	1	5	1	3	1	4	1	5	1	7	7	4	1	2	6	6	4	2	4	6	1	7	6	4	7	2	2	6	1	6	2	2	6		
16	rdpdrdrsdharyy3h@gmail.com	Rafael	Laki-Laki	<17 Tahun	Pelajar / Mahasiswa	4	2	5	2	5	4	3	1	4	2	6	5	4	5	4	6	4	5	4	5	7	7	7	7	5	7	5	7	5	7	5	7	6			
17	kreematida@gmail.com	k	P	Perempuan	17 – 25 Tahun	Pelajar / Mahasiswa	5	1	5	2	3	4	3	3	5	2	7	6	2	3	1	3	4	5	5	6	1	2	3	4	3	3	2	3	3	3	3	4	2	4	
18	rsrahm3d61@gmail.com	Rani	Perempuan	17 – 25 Tahun	Pelajar / Mahasiswa	4	4	4	4	4	4	4	4	4	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3		
19	cpvcpv97@gmail.com	cpvsa	Perempuan	17 – 25 Tahun	Pelajar / Mahasiswa	3	1	5	1	3	3	4	1	4	1	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3		
20	babes766@gmail.com	Babes	Laki-Laki	> 45 Tahun	Karyawan Swasta / PNS	3	2	4	1	4	3	4	2	3	5	4	3	4	3	4	3	4	3	3	4	3	3	3	3	3	3	2	3	2	3	2	3	3	2		
21	myndw5@gmail.com	RD	Laki-Laki	17 – 25 Tahun	Karyawan Swasta / PNS	4	3	4	2	4	2	4	2	2	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	6	6	6	5	6	
22	rdxyr-rs rahm3f1@gmail.com	Rafxyr	Laki-Laki	36 – 45 Tahun	Karyawan Swasta / PNS	5	3	3	3	4	4	3	3	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	
23	mahadevparth7311@gmail.com	Maha Aradhya Ousthor	Laki-Laki	36 – 45 Tahun	Karyawan Swasta / PNS	3	1	4	3	4	3	4	2	3	5	5	5	4	5	4	4	4	5	4	4	5	3	6	5	5	5	5	5	5	5	5	5	5	5		
24	noviandee9@gmail.com	Rani	Laki-Laki	36 – 45 Tahun	Karyawan Swasta / PNS	4	4	4	1	4	3	4	2	4	1	4	4	4	5	4	5	4	5	4	5	5	5	5	5	6	5	5	5	6	6	6	5	5	6		
25	danaystetir@gmail.com	Maya	Perempuan	17 – 25 Tahun	Karyawan Swasta / PNS	4	1	5	1	3	2	4	1	5	1	6	6	3	2	2	5	4	3	4	4	2	6	4	3	5	3	4	4	5	5	5	2	4	2	4	
26	desipies@gmail.com	Pudianto	Laki-Laki	> 45 Tahun	Karyawan Swasta / PNS	3	2	4	2	4	3	3	3	3	4	4	3	4	3	4	3	4	3	4	3	4	3	4	3	4	3	4	3	4	3	4	3	4	3		
27	gana154@gmail.com	CAIN	Laki-Laki	36 – 45 Tahun	Wawancara / Pengusaha	1	1	1	1	3	3	2	1	3	3	5	5	3	3	1	6	6	4	4	4	4	4	4	4	4	4	4	4	5	6	4	4	4	4		
28	rvandaharu@gmail.com	Revan	Laki-Laki	17 – 25 Tahun	Karyawan Swasta / PNS	4	2	4	1	4	3	4	2	4	2	6	6	2	2	5	6	6	2	5	6	2	6	5	6	2	6	2	6	2	6	2	6	2	6		
29	desidiana@gmail.com	Desa Adika	Laki-Laki	17 – 25 Tahun	Karyawan Swasta / PNS	5	2	4	2	5	3	4	2	4	2	5	4	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5		
30	adryyyo17@gmail.com	Adit	Laki-Laki	17 – 25 Tahun	Karyawan Swasta / PNS	5	2	4	1	2	2	3	2	4	1	4	6	5	6	7	6	6	4	5	6	4	5	6	4	5	5	5	5	5	5	5	5	5	5		

Figure 3. UEQ benchmark results

A scale mean is classified by comparing it against the distribution of scores in that database (e.g., the lowest 25% of products fall into the “Bad” category). According to Table 3, all six scales of Shopee fall into the Below Average benchmark category. Tokopedia receives a Bad rating on Dependability and Below Average on the remaining five scales. Lazada receives Bad ratings on five scales (Attractiveness, Perspicuity, Efficiency, Dependability, and Stimulation) and Below Average only on Novelty. Although the absolute means are positive, the benchmark comparison indicates that relative to the broader product database, all three applications especially Lazada still have substantial room for improvement.

The benchmark results reinforce the relative ranking already observed in the absolute means: Shopee maintains the strongest position (no Bad category), Tokopedia occupies the middle position (one Bad category), and Lazada occupies the weakest position (five Bad categories). Developers can use these diagnostic results to prioritize design improvements on the scales that fall into the lower benchmark bands.

3.6 Comparative Synthesis of SUS and UEQ

Table 4 integrates the key findings from both methods to provide a concise comparative overview. The synthesis presented in Table 4 shows a highly consistent ranking across the two independent instruments. Shopee leads on both functional usability (SUS) and multi-dimensional user experience (UEQ).

Table 4. Comparative synthesis of SUS and UEQ results

Aspect	Shopee	Tokopedia	Lazada
SUS Score	76.81	66.81	59.19
SUS Category	Good	Poor	Poor
UEQ Mean Rank	Highest	Medium	Lowest
UEQ Benchmark	Below Average (6 scale)	Bad (1 scale)	Bad (5 scales)
Overall	Best	Adequate	Needs
Conclusion			Improvement

Tokopedia consistently occupies the second position, while Lazada ranks third. The convergence of results from two complementary methods strengthens the confidence that, from the perspective of the 105 Indonesian respondents in 2026, Shopee currently delivers the superior overall interaction quality among the three pure e-commerce applications examined.

3.7 Explaining the Ranking and Design Implications

The consistent superiority of Shopee across both SUS and all six UEQ scales invites explanation beyond the numerical ranking. From the perspective of classical usability theory (Nielsen's heuristics and the ISO 9241 definition of usability), Shopee appears to perform better on the pragmatic quality dimensions that underpin learnability, efficiency, and error prevention. Higher scores on Perspicuity and Efficiency suggest that users find Shopee's information architecture, labeling, and task flows clearer and less effortful. This aligns with the principle that systems with consistent navigation patterns, prominent search functionality, and reduced cognitive load tend to produce higher SUS scores. Shopee's interface design characterized by a highly visible search bar, prominent promotional modules, and relatively short paths from discovery to checkout likely contributes to the elevated learnability and efficiency perceptions captured by both instruments.

On the hedonic side of user experience, Shopee also leads on Attractiveness, Stimulation, and Novelty. These scales reflect emotional responses to visual design, motivational features (gamification, live streaming, interactive promotions), and perceived innovativeness. Shopee's heavy investment in gamified elements (e.g., games, coins, flash-sale mechanics) and continuous visual refreshes may explain why users report higher stimulation and a more positive overall impression. Tokopedia, while competitive on Perspicuity, scores lower on Stimulation and Novelty.

suggesting that its interface, although functional, is perceived as less exciting or less innovative by the predominantly young sample. Lazada's consistently lowest scores across both pragmatic and hedonic dimensions indicate cumulative weaknesses in clarity, efficiency, and emotional engagement; the five "Bad" benchmark ratings signal that users experience greater friction and lower affective reward when interacting with the application. These findings are consistent with previous Indonesian studies that have ranked Shopee highly on SUS (Aisyah et al., 2025; Amelia, 2025) and with UEQ-based evaluations of individual platforms (Sofiyah, 2025; Sakdiah et al., 2025). The present study extends those results by demonstrating that the ranking remains stable when both instruments are applied simultaneously to the three pure e-commerce platforms and when differences are subjected to formal significance testing.

Placing the Indonesian results in an international context further enriches interpretation. Major global e-commerce platforms such as Amazon and eBay have historically reported SUS scores in the mid-to-high 70s or above in mature markets, reflecting long-term iterative investment in search relevance, one-click purchasing, and personalized recommendation systems. Shopee's SUS score of 76.81 places it in a comparable range to these international benchmarks for a leading local platform, whereas Tokopedia (66.81) and especially Lazada (59.19) fall noticeably below the conventional global average of approximately 68. On the UEQ side, international product evaluations frequently achieve "Above Average" or "Good" ratings on pragmatic scales when information architecture and interaction design have been rigorously optimized. The fact that all three Indonesian platforms remain in the "Below Average" or "Bad" bands relative to the UEQ global database indicates that, despite Shopee's relative leadership, absolute user-experience quality still lags behind the higher international reference points. This gap underscores the value of continuous, theory-informed interface refinement rather than reliance on market share alone.

From a practical standpoint, the lower scores of Tokopedia and especially Lazada on both instruments suggest priority areas for improvement: interface clarity and learnability (to raise SUS and Perspicuity), interaction efficiency and error prevention (to raise Efficiency and Dependability), and design freshness or innovative features (to raise Novelty and Stimulation). Shopee, while leading, still sits in the Below Average benchmark band on all UEQ scales; continuous refinement remains necessary if the platform wishes to reach the Above Average or Good benchmark categories. The integration of SUS and UEQ thus provides both a communicable global score and a multidimensional diagnostic profile that can guide concrete design decisions.

4. Conclusion

Based on the comparative analysis using SUS and UEQ, the following conclusions are drawn. First, Shopee obtained the highest usability score (SUS = 76.81; Acceptable, Grade

B, Good). Tokopedia scored 66.81 and Lazada 59.19 (both Marginal, Grade D, Poor). All pairwise differences were statistically significant ($p < 0.001$). Second, Shopee recorded the highest means on all six UEQ dimensions. Tokopedia ranked second and Lazada third. Benchmark comparison showed Shopee had no "Bad" scale, Tokopedia had one, and Lazada had five. Third, the ranking is consistent across both methods: Shopee > Tokopedia > Lazada. Shopee's superior performance is linked to clearer information architecture, more efficient task flows, and stronger motivational design elements. Developers may use these results to prioritize improvements in interface clarity, interaction efficiency, and innovative features. Future research should involve more demographically diverse respondents and may combine SUS–UEQ with Heuristic Evaluation or Cognitive Walkthrough.

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