

## GOPAY USER EXPERIENCE: A BENCHMARK-BASED EVALUATION USING THE USER EXPERIENCE QUESTIONNAIRE

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### Abstract

*The growing adoption of digital wallets underscores the importance of systematically evaluating perceived user experience. This study assesses GoPay using the standardized User Experience Questionnaire (UEQ) benchmark framework to identify strengths and priorities for improvement across pragmatic and hedonic dimensions. A descriptive quantitative design involved 50 users, predominantly students (88%) aged 18–24 years (86%), who completed the 26-item UEQ instrument. The findings showed that Perspicuity (2.035), Efficiency (1.925), and Dependability (1.775) were classified as Excellent, indicating strong pragmatic user experience. Attractiveness (1.443) was categorized as Above Average, whereas Stimulation (1.460) and Novelty (1.330) were rated Good, reflecting comparatively weaker hedonic qualities. These results provide GoPay developers with empirical guidance for maintaining interaction clarity and efficiency while enhancing engagement and novelty. For fintech application designers, the findings highlight the importance of balancing functional performance with attractive and stimulating interaction design. For future UX researchers, this study provides benchmark-based empirical evidence to support comparative, longitudinal, and cross-platform evaluations of digital financial applications.*

**Keywords:** UEQ, User Experience, E-Wallet, GoPay, Benchmark Evaluation

### INTRODUCTION

The digital era has brought about significant transformations in various aspects of life, including in the fields of business and entrepreneurship (Sedera et al., 2022). Digital wallets, also known as virtual money or cashless services, serve as a substitute

for physical cash in transactions. Through mobile applications, digital wallets allow users to perform various financial activities. Their presence makes the transaction process more practical and efficient (Moro-Visconti & Cesaretti, 2023). In Indonesia, one of the most widely used digital wallet

apps is GoPay (Widjojo, 2020), which is part of an integrated digital service ecosystem. The high usage of this app demands a high-quality system, particularly in terms of usability and user experience, to meet user needs and ensure satisfaction.

Usability is an indicator that evaluates the extent to which users can easily learn, interact with, and interpret the outcomes of a system or its specific components (Seffah et al., 2006). Meanwhile, user experience (UX) encompasses users' perceptions and responses to using a system, including emotional aspects and overall satisfaction (Ntoa, 2025). Evaluating these two aspects is crucial to determine whether the GoPay app has provided an optimal user experience or if there are still shortcomings that need to be addressed.

However, in practice, there are still several issues that digital wallet app users frequently encounter, such as a less-than-intuitive user interface, confusing transaction processes, and a lack of clear information regarding certain features (Sait et al., 2026). These issues can lead to decreased user satisfaction and loyalty toward the app. Therefore, a comprehensive evaluation is needed to identify these issues. This study uses the User Experience Questionnaire (UEQ) method to measure users' perceptions

of their experience using the GoPay app based on several aspects, such as attractiveness, efficiency, clarity, reliability, stimulation, and novelty (Puspitasari et al., 2025).

In addition, the use of UEQ in various studies has proven effective in measuring user perceptions based on several aspects, such as efficiency, clarity, and appeal, making it a useful tool for evaluating and improving the quality of applications. The scope of this study focuses on evaluating the usability and user experience of the GoPay app by involving active users as respondents. Testing was conducted by presenting several task scenarios commonly encountered when using the app, such as making payments, transferring balances, and checking transaction history (Purwanto et al., 2024). The data collected was then analyzed to determine the app's usability and user experience. Based on this background, the research questions for this study are: What is the level of usability of the GoPay app as measured by the UEQ method and also What is the level of user experience of the GoPay app as measured by the UEQ method. The hypothesis of this study is that there is a relationship between usability and user experience and the quality of the GoPay app, as measured using the UEQ method.

Previous empirical studies of digital wallet user experience have largely emphasized cross-platform comparisons or combined UEQ with additional usability methods, leaving GoPay's standardized benchmark profile insufficiently examined. This study addresses this gap by evaluating GoPay across the six UEQ dimensions (Attractiveness, Perspicuity, Efficiency, Dependability, Stimulation, and Novelty) and interpreting the mean scores against established benchmark categories. The analysis distinguishes pragmatic qualities, represented by Perspicuity, Efficiency, and Dependability, from hedonic qualities, reflected in Stimulation and Novelty, thereby enabling clearer identification of relative strengths and weaker dimensions. This benchmark-based re-evaluation provides a more interpretable assessment of GoPay's current user experience, supports evidence-based priorities for interface and interaction improvements, and offers UX researchers an empirical framework for comparative and longitudinal evaluations of digital wallet and fintech applications across diverse user populations and usage contexts.

## **LITERATURE REVIEW**

### **Usability**

Usability testing is a systematic technique for evaluating a system by examining users' experiences and performance during their interactions with it (Sharma & Kumar, 2025). Usability indicators are used to assess the level of user satisfaction in using technology, applications, or products to achieve desired goals (Sun, 2026). In this context, the level of success can be measured by the extent to which an application or technology is able to provide good quality service to users (Hassan et al., 2025). Usability consists of five main components: learnability, efficiency, memorability, errors, and satisfaction. The errors aspect is a key component of usability, particularly in digital financial applications like GoPay, as system errors can directly result in financial losses for users. Additionally, errors in the system can erode user trust in the application. Therefore, evaluating the error rate in the GoPay application is crucial to enhance user trust in the application.

In addition, usability is a critical success factor in fintech platforms because users must complete financial transactions accurately, efficiently, and with minimal cognitive effort. Poor usability can increase confusion, errors, perceived risk, and distrust, whereas clear navigation, predictable responses, and understandable feedback reduce interaction effort and

strengthen perceived control, thereby improving satisfaction during transactions (Bansal & Thakur, 2025). Conceptually, usability is a component of the broader user experience rather than an equivalent construct. Usability primarily reflects pragmatic qualities related to effective and efficient goal achievement, while UX additionally incorporates hedonic and affective responses, including attractiveness, stimulation, and novelty. Thus, usability-related pragmatic quality contributes directly to user satisfaction and forms one component of overall UX alongside hedonic and emotional qualities.

### **User Experience (UX)**

User Experience (UX) is a concept that encompasses all aspects of user interaction and perception when dealing with a product, service, or system (Manna et al., 2025). A good user experience demands a deep understanding of user needs, goals, and preferences, and an effort to deliver solutions that are intuitive, efficient, and satisfying (Devi et al., 2025). One method for understanding user needs is through the user experience approach, which provides insight into what users think and feel when operating or using a product, service, or system (Beyari & Hashem, 2025). For example, core features in an application should be easy for users

to find; if they are hidden in a menu, this can cause confusion and reduce user comfort. Thus, UX is a critical factor in determining the overall quality of the user experience.

Moreover, UX conceptual basis is strongly grounded in human-centred design, which prioritizes understanding users, their needs, tasks, and contexts of use during the development of interactive systems (Reveles-Gómez et al., 2021). Tenner (2015) further argues that effective interaction design depends on clear signifiers, appropriate mappings, timely feedback, and comprehensible conceptual models. Extending beyond functional usability, Subhiyakto & Astuti (2023) frames experience design in terms of pragmatic qualities that facilitate goal achievement and hedonic qualities that support stimulation, identification, and positive experiences. Collectively, these perspectives indicate that interactive applications should be assessed through both functional performance and users' subjective experiential evaluations and perceptions.

### **User Experience Questionnaire**

User Experience Questionnaire or UEQ is a questionnaire-based instrument used to measure user experience with a product or application in a structured manner.

Originally developed and evaluated by Schrepp et al. (2017), the UEQ provides a standardized instrument for assessing users' subjective perceptions of interactive products. The UEQ (Laugwitz et al., 2008) is designed to measure six key aspects such as attractiveness, perspicuity, efficiency, dependability, stimulation, and novelty. The UEQ method was chosen because it has a broad evaluation scope, by assessing six scales at once, rather than just focusing on one general aspect. One of the key aspects of the UEQ is efficiency, which evaluates user experience by considering ease of use, access speed, and the extent to which the application aligns with users' expectations during use. These dimensions represent distinct dimensions of perceived user experience. Attractiveness reflects the overall impression of an application and supports acceptance and continued engagement. Perspicuity denotes ease of understanding and learning, reducing cognitive effort and transaction-related confusion. Efficiency captures rapid, low-effort task completion, which is essential for frequent financial transactions. Dependability reflects predictability, control, and confidence during system interaction. Stimulation represents engagement and motivation beyond functional use, while Novelty reflects

perceived creativity and innovation in interaction design. Therefore, this method is suitable for GoPay UX evaluation.

## RESEARCH METHOD

This study employs a descriptive quantitative approach to evaluate the usability and user experience of the GoPay app. This approach utilizes data to identify variables and measure them numerically, thereby enabling analysis based on appropriate statistical procedures. Quantitative research is defined as a study that collects data in the form of numbers or measurable data (Weng, 2024). The evaluation method used is the User Experience Questionnaire, which is one of the instruments that can be used to measure user experience in a more thorough and comprehensive manner (Kushendriawan et al., 2021). The User Experience Questionnaire method is also used to measure UX based on six aspects: attractiveness, perspicuity, efficiency, dependability, stimulation, and novelty. The UEQ is widely used in information systems research to comprehensively evaluate the quality of user experience (Paramitha et al., 2018).

The target population comprised individuals with prior experience using the GoPay mobile application. Participants were recruited through criterion-based purposive sampling

using an online questionnaire distributed to accessible potential respondents. The sampling frame consisted of individuals reached through the selected online distribution channels who satisfied the eligibility criteria, including prior GoPay usage and completion of all 26 UEQ items. A total of 50 valid responses were included in the analysis. This sample size was considered adequate for descriptive UEQ benchmarking. According to Schrepp (2023), approximately 20 to 30 UEQ respondents generally provide relatively stable scale means for typical product evaluations, although the required sample size depends on response variability and the level of agreement among respondents. Therefore, the sample of 50 respondents exceeded the recommended range and provided an appropriate empirical basis for estimating the UEQ dimensions. The use of questionnaires as a data collection technique is considered effective in obtaining users' direct perceptions of a system or application (Syamsiah & Nurjannah, 2024).

DATA ANALYSIS

The UEQ evaluation involved 50 respondents, and data were analyzed using the UEQ Data Analysis Tool as illustrated in Figure 1.

|                    | 1                     | 2                     | 3                     | 4                     | 5                     | 6                     | 7                     |                            |    |
|--------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------------------|----|
| annoying           | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | enjoyable                  | 1  |
| not understandable | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | understandable             | 2  |
| creative           | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | dull                       | 3  |
| easy to learn      | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | difficult to learn         | 4  |
| valuable           | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | inferior                   | 5  |
| boring             | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | exciting                   | 6  |
| not interesting    | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | interesting                | 7  |
| unpredictable      | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | predictable                | 8  |
| fast               | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | slow                       | 9  |
| inventive          | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | conventional               | 10 |
| obstructive        | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | supportive                 | 11 |
| good               | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | bad                        | 12 |
| complicated        | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | easy                       | 13 |
| unlikable          | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | pleasing                   | 14 |
| usual              | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | leading edge               | 15 |
| unpleasant         | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | pleasant                   | 16 |
| secure             | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | not secure                 | 17 |
| motivating         | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | demotivating               | 18 |
| meets expectations | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | does not meet expectations | 19 |
| inefficient        | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | efficient                  | 20 |
| clear              | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | confusing                  | 21 |
| impractical        | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | practical                  | 22 |
| organized          | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | cluttered                  | 23 |
| attractive         | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | unattractive               | 24 |
| friendly           | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | unfriendly                 | 25 |
| conservative       | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | innovative                 | 26 |

Figure 1. UEQ Question

Responses to the 26 UEQ items were transformed from the seven-point semantic differential scale into standardized scores ranging from -3 to +3. Item scores were aggregated into six dimensions: Attractiveness, Perspicuity, Efficiency, Dependability, Stimulation, and Novelty. For each dimension, the mean and standard deviation were calculated. Statistical uncertainty was estimated using a 95% confidence interval, calculated as  $\bar{x} \pm 1.96 (s/\sqrt{n})$ , where  $\bar{x}$  is the mean,  $s$  the standard deviation,  $n$  the sample size and 1.96 is the critical z-value for a 95% confidence level. Mean scores were compared with UEQ benchmarks and classified as Excellent, Good, Above Average, Below Average, or Bad. Efficiency

represents users' perceived efficiency of interaction with GoPay.

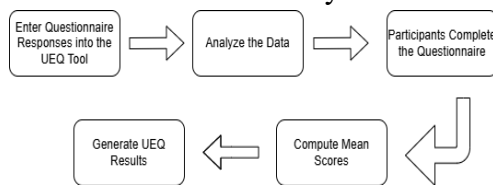


Figure 2. The UEQ data processing process

As shown in Figure 2, the UEQ data processing process involves several stages. Next, we analyzed and discussed the results of the UEQ questionnaire data collection and compared the UEQ questionnaire results from the app. Decisions were made after all stages of the analysis in the study were completed.

## RESULTS AND DISCUSSION

The demographic characteristics of the 50 respondents shown in Table 1. Most participants were students (88%), and 86% were aged 18–24 years. This demographic concentration indicates that the findings predominantly represent the perceptions of younger users and should therefore be interpreted cautiously when generalized to the broader GoPay user population.

Table 1. Demographic Respondents

| Characteristic | Category         | Frequency (n) | Percent age (%) |
|----------------|------------------|---------------|-----------------|
| Occupation     | Student          | 44            | 88              |
|                | Other            | 6             | 12              |
| Age            | 18–24 years      | 43            | 86              |
|                | Other age groups | 7             | 14              |

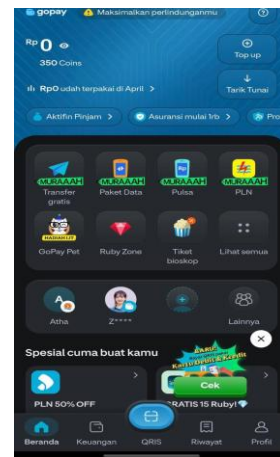


Figure 3. User Interface\_1 of the GoPay Application

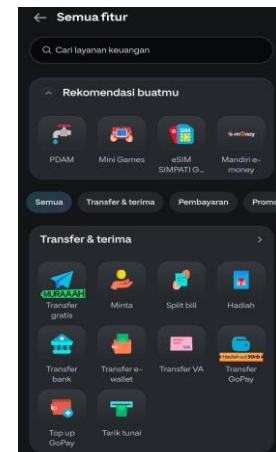


Figure 4. User Interface\_2 of the GoPay Application

Figure 4 shows the main interface and feature display of the GoPay application used in this study. The results of the analysis of the User Experience Questionnaire (UEQ) data, which was completed by respondents, were used to determine the level of user experience with the analyzed application, Gopay. Subsequently, the data obtained was

converted from a 1–7 scale to a range of -3 to +3 in accordance with UEQ guidelines. Next, the average score was calculated for each aspect: appeal, clarity, efficiency, accuracy, stimulation, and novelty. The results of the calculations based on the collected questionnaire data are presented in Table 2.

Table 2. GoPay UEQ Results

| UX Aspect      | UEQ Scale Values |
|----------------|------------------|
| Attractiveness | 1,443            |
| Perspiciuity   | 2,035            |
| Efficiency     | 1,925            |
| Dependability  | 1,775            |
| Stimulation    | 1,460            |
| Novelty        | 1,330            |

Based on the results of the questionnaire data analysis in Table 2, it can be concluded that the aspect with the highest score is clarity (perspicuity), with a score of 2.035. This indicates that the GoPay e-wallet is an application that is easy for users to understand. The efficiency aspect received the second-highest score of 1.925, indicating that the GoPay e-wallet app processes transactions quickly. Next, the dependability aspect received a score of 1.775, meaning the GoPay e-wallet app performs as users expect. The stimulation aspect received a positive score of 1.460. This indicates that the app is beneficial to users. For the attractiveness aspect, it received a score of 1.443, meaning the app is quite attractive and user-friendly. The score for the final aspect, novelty, is

1.330, indicating that the GoPay e-wallet app’s design is quite innovative and up-to-date. Figure 5 shows results of UEQ testing on the GoPay app.

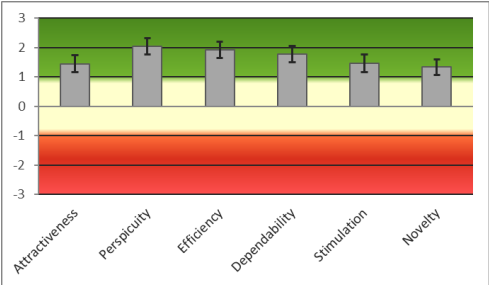


Figure 5. Graph of GoPay UEQ Test Results

Each bar in Figure 5 above shows the mean value of each UEQ aspect falling within the green zone or positive range; thus, the graph above indicates that respondents have a positive perception of their experience using the GoPay app. All aspects fall within the green zone, indicating that the quality of the user experience is good. Each bar is accompanied by a line indicating the confidence interval for the data on each aspect.

Table 3. GoPay Confidence Intervals

| Confidence intervals (p=0.05) per scale for N =50 |       |       |       |       |       |
|---------------------------------------------------|-------|-------|-------|-------|-------|
| Scale                                             | Mean  | SD    | C     | CI    |       |
| Attractiveness                                    | 1,443 | 1,055 | 0,292 | 1,151 | 1,736 |
| Perspiciuity                                      | 2,035 | 1,010 | 0,280 | 1,755 | 2,315 |
| Efficiency                                        | 1,925 | 0,994 | 0,275 | 1,650 | 2,200 |
| Dependability                                     | 1,775 | 0,991 | 0,275 | 1,500 | 2,050 |
| Stimulation                                       | 1,460 | 1,093 | 0,303 | 1,157 | 1,763 |
| Novelty                                           | 1,330 | 0,950 | 0,263 | 1,067 | 1,593 |

SD=Standard Deviation; C=Confidence; CI=Confidence Interval

These values used to assess the consistency of respondents' answers regarding each measured aspect. The confidence intervals in more detail can be seen in Table 3.

The average UEQ scores were compared with the benchmark to determine the quality of the user experience, as shown in Table 4 and Figure 6.

Table 4. Comparison Results of the GoPay UEQ Dataset

| Scale          | Mean | Benchmark Comparison | Interpretation                              |
|----------------|------|----------------------|---------------------------------------------|
| Attractiveness | 1,44 | Above average        | 25% of results better, 50% of results worse |
| Perspicuity    | 2,04 | Excellent            | In the range of the 10% best results        |
| Efficiency     | 1,93 | Excellent            | In the range of the 10% best results        |
| Dependability  | 1,78 | Excellent            | In the range of the 10% best results        |
| Stimulation    | 1,46 | Good                 | 10% of results better, 75% of results worse |
| Novelty        | 1,33 | Good                 | 10% of results better, 75% of results worse |

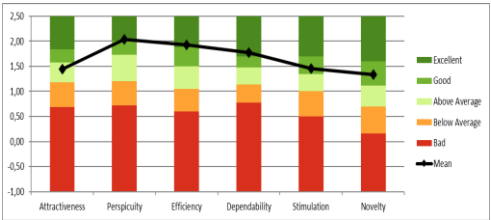


Figure 6. Comparison Results Using the GoPay App Benchmark Scale

Based on Table 3 and Figure 6, the UEQ benchmark analysis shows a

clear pattern in GoPay's user experience, with pragmatic dimensions performing better than hedonic dimensions. Perspicuity had the highest score (2.035), indicating that users found GoPay easy to understand and learn. Efficiency (1.925) suggests that users could complete financial activities with relatively low effort, while Dependability (1.775) reflects predictable and controlled interaction. These three dimensions were classified as Excellent. In contrast, Attractiveness (1.443) was rated Above Average, while Stimulation (1.460) and Novelty (1.330) were classified as Good, showing weaker experiential qualities. These findings indicate that GoPay performs strongly in functional aspects but less strongly in engaging and innovative aspects. Developers should maintain clarity, efficiency, and reliable interaction while improving visual appeal, engagement, and novelty. However, the findings should be interpreted carefully because the study involved only 50 respondents, mainly younger students, which limits generalizability to the wider GoPay user population.

Furthermore, this study should be interpreted strictly as a user experience evaluation based on perceived responses measured through the UEQ. It did not independently assess objective

usability indicators such as task success rate, task completion time, error rate, or task efficiency. Therefore, the findings do not demonstrate comprehensive usability performance. The sample of 50 respondents, predominantly students aged 18–24 years, also limits demographic representativeness and generalizability.

## CONCLUSION

The UEQ benchmark results demonstrate stronger pragmatic than hedonic user experience. Perspicuity (2.035), Efficiency (1.925), and Dependability (1.775) were classified as Excellent, indicating that respondents perceived GoPay as understandable, efficient to interact with, and predictable during use. The Efficiency score represents perceived interaction efficiency rather than objectively measured transaction completion time. In contrast, Attractiveness (1.443) was categorized as Above Average, whereas Stimulation (1.460) and Novelty (1.330) were rated Good. Accordingly, future interface improvements should prioritize the comparatively weaker hedonic dimensions while preserving GoPay's strong perceived efficiency, clarity, and dependability. Specific design modifications should be validated through further user-centered

evaluation. Future studies should involve more heterogeneous participant samples and combine UEQ with objective usability measures, including task completion time, task success rate, and error rate, to distinguish perceived user experience from objectively measured usability performance.

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