

User Experience Analysis of Mobile Banking in Indonesia: Usability Testing & UEQ Case Study of Bank Jago Syariah

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submitted: 5 December 2023, revised: 20 March 2023, published: 24 April 2025

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Abstract

This study aims to evaluate the user experience of mobile banking applications in Indonesia using usability testing and the User Experience Questionnaire (UEQ). Given the rapid growth of mobile banking technology, significant attention must be paid to user experience to ensure the application is efficient and enjoyable. By combining these two research approaches, we identify key factors influencing user experience, such as user interface, navigation, and overall satisfaction. Usability testing was conducted to assess how well the mobile banking application meets user needs and expectations. Participants completed a series of tasks designed to cover the application's main features, while researchers observed and recorded responses, challenges, and time spent on each task. The results provided valuable insights into specific issues users face while interacting with the app. Following this, the UEQ was used to measure qualitative aspects of the user experience, including satisfaction, anxiety, stimulation, and focus. Users filled out the questionnaire after interacting with the app, providing data on their perceptions and emotions during usage. The UEQ data helped identify design elements that positively or negatively impact user experience. The findings offer a deep understanding of the strengths and weaknesses of mobile banking applications in Indonesia. This information can guide developers in making necessary improvements to ensure users have a satisfying and efficient experience. The research also contributes to raising awareness and understanding of user-centered mobile banking application development in Indonesia.

Keywords: *user experience, mobile banking applications, usability testing, user experience questionnaire*

INTRODUCTION

In the rapidly evolving digital era, mobile banking applications have become an indispensable tool for the Indonesian population. With easy access via mobile devices, users

can manage their finances, conduct banking transactions, and access a range of financial services quickly and efficiently. The digital transformation in banking has significantly contributed to increasing financial inclusion in Indonesia, with mobile banking providing an essential platform for individuals who previously lacked access to traditional banking services (Perdini et al., 2024). However, despite the convenience and ease offered by mobile banking applications, users face several challenges in their daily usage. Issues such as complex application interfaces, unintuitive user experiences, and security concerns are major factors that hinder optimal user satisfaction (Paul & Velmurugan, 2025b).

User experience (UX) has become a crucial aspect of mobile application design, especially in the context of mobile banking, where users need to perform sensitive financial transactions. A seamless and user-friendly experience is fundamental in ensuring that applications meet user expectations and foster long-term customer loyalty (Michalco et al., 2015). Existing research on mobile banking applications in Indonesia primarily focuses on technological advancements and security features (Handani, 2024), but there is a significant gap when it comes to evaluating the user experience from the perspective of usability and emotional response. While previous studies have assessed user satisfaction in financial services, fewer studies have employed comprehensive methods, such as usability testing and User Experience Questionnaire (UEQ), to holistically assess user experiences with mobile banking applications in Indonesia.

To address these gaps, this research aims to analyze the user experience of mobile banking applications in Indonesia using a dual approach of usability testing and the User Experience Questionnaire (UEQ). Usability testing evaluates how well mobile banking applications meet the needs and expectations of users. Through this method, users are asked to complete a series of tasks that cover various features of the application, such as account registration, fund transfer, and bill payments. Observing users' interactions with the app reveals the obstacles and difficulties they encounter, providing insights into areas that require improvement in design and functionality (Li et al., 2024).

In addition, the UEQ is employed to capture the qualitative aspects of the user experience, measuring factors such as user satisfaction, anxiety, stimulation, and focus. The UEQ offers valuable data on users' emotional responses and perceptions of the mobile banking application, which is essential for understanding the psychological impact of app design (Schankin et al., 2022). By combining usability testing and the UEQ, this study aims to contribute a comprehensive understanding of the strengths and weaknesses of mobile banking applications in Indonesia, providing developers with actionable insights to improve user experience, security, and functionality.

Thus, this research aims to bridge the gap in current literature by offering a more integrated perspective on the user experience of mobile banking in Indonesia. The findings of this study will not only provide in-depth insights into the existing challenges faced by users but also offer practical recommendations for developers to enhance the design and usability of mobile banking applications. Ultimately, this study seeks to contribute to the development of mobile banking apps that offer optimal and satisfying user experiences, ensuring users can efficiently and securely manage their financial services via mobile devices.

METHOD

Research Approach

This study adopts a mixed-methods approach, combining both quantitative and qualitative research techniques to evaluate the user experience of the Jago Syariah Mobile

application. The primary research methods used are the User Experience Questionnaire (UEQ) and Heuristic Evaluation (HE). The quantitative approach, via the UEQ, allows for a comprehensive assessment of the user's perceptions and emotions concerning the mobile banking application (Tullis & Albert, 2013). On the other hand, the qualitative method, through Heuristic Evaluation, focuses on identifying usability issues and interface design flaws that may affect user interaction. This combination ensures that the study offers a holistic view of both the emotional experience and usability aspects of the mobile application, providing actionable insights for improvements in design and functionality.

Research Design

The research design consists of two distinct phases: data collection and data analysis. In the data collection phase, quantitative data is gathered using the UEQ, which includes six different scales with a total of 26 items, focusing on aspects like attractiveness, efficiency, clarity, dependability, stimulation, and novelty. The questionnaire is administered to 50 users of the Jago Syariah Mobile application, as this sample size is considered adequate for ensuring valid and reliable results (Cresswell, 2012). The data is collected through Google Forms, which allows respondents to complete the survey online, making it more accessible and efficient. The qualitative data is gathered through Heuristic Evaluation, where evaluators review the app's user interface and identify potential usability problems based on Nielsen's heuristics. The evaluators provide severity ratings and suggest improvements for each identified issue.

Data Analysis

Data analysis is conducted in two phases corresponding to the two data collection methods. For the quantitative data from the UEQ, the results are processed using an Excel-based analysis tool specifically designed for the UEQ method. This tool generates graphical visualizations of the six scales, allowing for a clear overview of the users' experiences and satisfaction levels with the mobile banking application (Ubam et al., 2021). These results will guide recommendations for improving the app's interface and functionality. In the qualitative phase, the Heuristic Evaluation findings are analyzed by categorizing usability problems based on Nielsen's heuristics. Each problem is assessed for its severity and potential impact on the user experience, with suggestions for improvements provided by the evaluators. This comprehensive analysis from both approaches enables a detailed understanding of the app's strengths and weaknesses, ultimately contributing to practical recommendations for enhancing the Jago Syariah Mobile application.

RESULTS

User Experience Questionnaire Testing Results

In total, 50 respondents participated in the UEQ survey for this study. These respondents were selected from users of the Jago Syariah Digital Bank application. The UEQ consists of 26 statements across six dimensions: Attractiveness, Perspicuity, Efficiency, Dependability, Stimulation, and Novelty. Responses to the UEQ were rated on a seven-point scale, ranging from -3 (most negative) to +3 (most positive), with 0 indicating neutrality. Following the weighting of each item, the average (mean) score for each item was calculated, representing the typical responses from the 50 respondents who use the Jago Syariah Digital Bank application.

The results of the analysis were then categorized according to the six dimensions of the UEQ: Attractiveness, Perspicuity, Efficiency, Dependability, Stimulation, and Novelty. The scores for each dimension revealed the following average ratings: Attractiveness scored a mean of 1.909, Perspicuity scored 2.105, Efficiency scored 2.044, Dependability scored 1.728, Stimulation scored 1.665, and Novelty scored the lowest at 1.388. The scores indicate that the highest-rated aspects of the application were clarity (Perspicuity) and efficiency, both of which were perceived positively by users. The lowest score was for Novelty, suggesting that users felt the application lacked innovative features compared to competitors.

Graphical Representation of UEQ Scale Mean Scores

The graph above illustrates the mean scores for the six dimensions of the UEQ based on responses from 50 users of the Jago Syariah Digital Bank application. From the chart, it is clear that the application receives mostly positive feedback, with the mean scores for Attractiveness, Perspicuity, Efficiency, and Dependability in the "excellent" category, falling within the top 10% of benchmarks for similar applications. The Stimulation and Novelty dimensions, however, fall into the "good" category, suggesting there is room for improvement in these areas. Based on the benchmark comparison, the Jago Syariah Digital Bank app performs well overall, with its mean scores indicating a highly satisfactory user experience in most areas.

Table 1. Benchmark Comparison of UEQ

Scale	Mean	Comparison to Benchmark	Interpretation
Attractiveness	1.91	Excellent	In the range of the 10% best results
Perspicuity	2.10	Excellent	In the range of the 10% best results
Efficiency	2.04	Excellent	In the range of the 10% best results
Dependability	1.73	Excellent	In the range of the 10% best results
Stimulation	1.66	Good	10% of results better, 75% worse
Novelty	1.39	Good	10% of results better, 75% worse

The benchmark diagram clearly shows that Jago Syariah Digital Bank performs excellently in the scales of Attractiveness, Perspicuity, Efficiency, and Dependability, with these scores placing it in the top 10% of similar applications. However, the scores for Stimulation and Novelty indicate that while these aspects are good, there is still room for improvement in enhancing user engagement and introducing more innovative features.

Heuristic Evaluation Testing Results

Heuristic Evaluation was conducted with the involvement of four evaluators, all of whom have expertise in user interface design and usability. Each evaluator assessed the Jago Syariah Digital Bank application, identified usability issues, and assigned severity ratings based on the severity of each issue. The evaluators then provided suggestions for improvements. The evaluators were students from the Islamic Banking program, which ensured that they had relevant knowledge in banking-related user interfaces.

Recommendations for Improvement

Based on the findings from both the UEQ and Heuristic Evaluation, the application overall performs well, with most users expressing satisfaction with the app's features.

However, some areas for improvement were identified. The following recommendations for improvement are based on the issues observed during the Heuristic Evaluation:

Table 1. Heuristic Evaluation

Problem Description	Suggested Improvement
The application logs out automatically after a short period.	Extend the session duration to allow users more time before being logged out, especially in urgent situations.
Limited online transaction reach, mainly available with partners like Gojek or Tokopedia.	Bank Jago should expand the range of online transactions to include more services, as this ease of use is a key factor for customer retention.
Some features use terms that are unclear, such as “nomor kantong” for account numbers and “kirim bayar” for payments.	Replace ambiguous terminology with more conventional banking language to prevent confusion for users.

These improvements, although not critical, would further enhance the usability and overall experience of users, making the app more accessible and user-friendly for a broader audience.

DISCUSSION

The results of the User Experience Questionnaire (UEQ) conducted with 50 respondents using the Jago Syariah Digital Bank application provide valuable insights into how users perceive the application's usability across various dimensions. The UEQ, consisting of 26 statements grouped into six distinct categories, assesses user experiences based on Attractiveness, Perspicuity, Efficiency, Dependability, Stimulation, and Novelty. The results revealed that the highest-rated dimensions were *Perspicuity* (clarity) and *Efficiency*, with average scores of 2.105 and 2.044, respectively. These high scores suggest that users find the application clear and easy to navigate, and they perceive it as efficient in performing key tasks, which are critical aspects of user satisfaction (Schankin et al., 2022). This indicates that Jago Syariah Digital Bank has successfully addressed the fundamental usability needs of its users, which likely contributes to positive user engagement and retention.

On the other hand, dimensions such as *Attractiveness* (1.909) and *Dependability* (1.728) also received positive feedback but with lower ratings compared to *Perspicuity* and *Efficiency*. The score for *Attractiveness* suggests that while the application is visually appealing, there may be opportunities for further enhancing its aesthetic design and user interface to increase user satisfaction. Similarly, the slightly lower score for *Dependability* indicates that users may have concerns about the application's reliability or consistency in performance, which are essential factors in building trust and long-term user loyalty (Wu et al., 2022). These areas could be targeted for improvement to further elevate the user experience.

The most concerning finding from the survey was the low score for *Novelty* (1.388), which indicates that users perceive the application as lacking innovative features compared

to its competitors. In the highly competitive digital banking sector, innovation is crucial for attracting and retaining users, particularly when technological advancements are central to user expectations (Selvam et al., 2023). This low rating suggests that Jago Syariah Digital Bank may need to invest in introducing unique and differentiating features that not only meet users' functional needs but also offer them something new and exciting, enhancing their overall perception of the app's value. This insight highlights the importance of continually evolving digital services to stay competitive in an increasingly saturated market.

The graphical representation of the UEQ scale mean scores for the Jago Syariah Digital Bank application provides an insightful overview of its overall performance across the six key dimensions of user experience. According to the data, the application excels in four areas: *Attractiveness* (1.91), *Perspicuity* (2.10), *Efficiency* (2.04), and *Dependability* (1.73), all of which fall within the "excellent" category, placing Jago Syariah Digital Bank in the top 10% of similar applications. These scores reflect a well-designed interface that is both visually appealing and functional, meeting users' expectations for clarity, ease of use, and reliability (Paredes & Hernandez, 2017). The positive feedback in these areas suggests that the application offers a seamless and efficient experience, which is crucial in maintaining user satisfaction and fostering trust in digital banking services (Rahman et al., 2024).

However, the results also highlight areas for improvement, particularly in the dimensions of *Stimulation* (1.66) and *Novelty* (1.39), both of which are categorized as "good," but not exceptional. These scores suggest that while the application performs adequately, it lacks the innovative features and engaging elements that could elevate the user experience to a higher level (Kumari, 2022). In the highly competitive digital banking market, novelty and stimulation are key to differentiating an application from competitors, as users are increasingly seeking new and engaging functionalities that go beyond basic banking tasks. To remain competitive, the Jago Syariah Digital Bank app could benefit from introducing more interactive elements or unique features that appeal to users' desires for a more dynamic and forward-thinking banking experience (Garzaro et al., 2021).

The benchmark comparison further underscores the application's strong performance in core usability aspects, with all scores for *Attractiveness*, *Perspicuity*, *Efficiency*, and *Dependability* falling within the top 10% of benchmark results for similar applications. However, the lower scores for *Stimulation* and *Novelty* indicate a gap in user engagement and innovation that could be addressed through targeted updates. For example, enhancing the user interface with personalized features, gamification elements, or innovative banking tools could boost these dimensions. This aligns with findings from user experience research, which suggests that innovation and user engagement are crucial for fostering long-term customer satisfaction and loyalty in digital platforms (Sajjad & Zaman, 2020). The next steps for improvement should focus on addressing these areas while maintaining the strengths that have earned the application its excellent ratings in the core dimensions.

The Heuristic Evaluation testing conducted with four evaluators with expertise in user interface design and usability provided valuable insights into the user experience of the Jago Syariah Digital Bank application. Each evaluator reviewed the app for usability issues, assigned severity ratings, and suggested improvements based on their findings. Heuristic evaluations are a well-established method for identifying usability problems early in the design process (Mirel & Wright, 2009). The evaluators, who were students from the Islamic Banking program, brought relevant knowledge of banking systems, which ensured that their feedback was tailored to the unique needs and expectations of users in the financial sector.

This expertise likely contributed to identifying specific usability challenges that may not be immediately apparent to general users but are crucial in a banking context.

One of the key issues identified was the application's short session duration, which results in automatic logouts after a brief period. This issue was categorized as a moderate usability concern, as it could be disruptive, especially in urgent situations where users need quick access to their banking services (Abdul Aziz et al., 2024). The evaluators recommended extending the session duration to provide users with more time before being logged out, ensuring a smoother experience, particularly for those conducting time-sensitive transactions. This recommendation aligns with best practices for user experience in financial applications, where convenience and efficiency are critical (Sauer et al., 2015). Another concern was the limited reach of online transactions, which were mainly available with partners like Gojek or Tokopedia. Expanding the range of online transaction services was suggested to improve the app's utility and enhance user satisfaction by providing more diverse payment options, a feature known to foster customer retention (Paul & Velmurugan, 2025a).

The evaluation also highlighted ambiguities in the app's terminology, such as the use of "nomor kantong" for account numbers and "kirim bayar" for payments. These terms were deemed unclear and potentially confusing to users who may be unfamiliar with non-standard banking jargon (Helliard et al., 2022). The evaluators recommended replacing these ambiguous terms with more conventional and widely recognized banking language to improve the clarity and accessibility of the application. By addressing these usability issues, Bank Jago could make the app more user-friendly and accessible to a broader audience, thus improving overall customer experience and satisfaction. The proposed improvements, although not critical, would significantly enhance the app's functionality and ease of use, ensuring it meets the expectations of its diverse user base (Schankin et al., 2022).

CONCLUSION

The results of the User Experience Questionnaire (UEQ) and Heuristic Evaluation provide a comprehensive analysis of the Jago Syariah Digital Bank application, offering valuable insights into its strengths and areas for improvement. The UEQ results indicate that the application performs well in core usability aspects such as Perspicuity, Efficiency, and Dependability, with scores that place it in the "excellent" category compared to similar applications. This suggests that the app effectively meets user needs for clarity, ease of use, and reliability. However, the lower scores in Stimulation and Novelty indicate that there is room for improvement, particularly in making the app more innovative and engaging. The Heuristic Evaluation also identified several usability issues, including automatic logouts, limited online transaction reach, and unclear terminology, which could negatively impact user experience if left unaddressed.

The recommended improvements from both the UEQ and Heuristic Evaluation offer a clear path forward for enhancing the Jago Syariah Digital Bank application. Key suggestions include extending the session duration to avoid disruptions for users in urgent situations, expanding the range of online transactions to provide more diverse payment options, and replacing ambiguous terminology with conventional banking terms to improve user understanding. These changes are crucial for enhancing the overall usability of the app and ensuring that it caters to a broader audience. By addressing these issues, Bank Jago could significantly improve its user experience and customer satisfaction, reinforcing its position in the competitive digital banking market.

Further research could focus on exploring additional methods to enhance user engagement and innovation within the application. For example, incorporating gamification or personalized features could increase user interaction and provide a more dynamic experience. Additionally, further studies could investigate how users in different demographic groups (e.g., age, tech-savviness, or banking experience) perceive the app's usability, which could uncover additional insights for tailoring the application to meet diverse user needs. Future research should also consider the long-term effects of usability improvements on customer retention and satisfaction in the digital banking sector, as well as track how the app's innovation impacts its competitive advantage over time. Ultimately, continuing to refine the user experience through iterative testing and user feedback will be essential to maintaining a high-quality, user-centered digital banking platform.

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