

The Influence of System Quality, User Satisfaction and Effort Expectancy on User Adoption of Information Systems of Mobile Banking Users

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Abstract

This research proposes to evaluate the effect of system quality, user satisfaction, and effort expectancy on information systems user adoption among Indonesian mobile banking consumers. The research method employed was quantitative, involving a survey of 200 respondents who are mobile banking users and belong to different banking institutions. The sampling strategy used was purposive sampling based on the criteria of active users who have been using digital banking services for at least six months. Data analysis was done using multiple linear regression at a 0.05 significance level. The findings revealed that all the independent variables had a positive and significant influence on the dependent variable. System quality increases trust and effectiveness of use, user satisfaction leads to user loyalty, and effort expectancy makes the adoption of digital technology easier. Theoretically, the study extends the conversation of the DeLone and McLean Information Systems Success Model and UTAUT in digital banking. Practically, it acts as a guide to banks on how to improve their system quality, user experience, and technology acceptance level during the digital transformation era.

Keywords: system quality, user satisfaction, effort expectancy, user adoption of information system.

INTRODUCTION

The digital transformation of the banking industry has essentially redefined the ways banks arevented andorporated (Karyono et al., 2024). Mobile banking, as one of the most prominent innovations, has enabled customers to carry out financial transactions anytime and anywhere via their mobile devices (Bakri et al., 2023). However, the triumph of the technology deployment is dependent not only on the advancedness of the system but also on the willing of users to accept and adopt it. Users' acceptance of information systems is regarded as the key issue which determines the accomplishment of the digital banking technology implementation (Sutrisno et al., 2023; Hendra et al., 2025). The higher the adoption rate, the more the customers' trust, comfort, and engagement with the system (Sunarso & Mustafa, 2023). In Indonesia, even though the number of mobile banking users has increased rapidly,

there are still drawbacks like the digital literacy gap, security concerns, and poor user experience (Anantadjaya et al., 2023; Sudirjo et al., 2023).

Quality of the system is one of the primary aspects impacting the acceptance of the information system (Latief, 2005). The quality of the system shows how far an information system is going to be well for its design regarding the support, user-friendliness, responsiveness, and security of data (Gunawan et al., 2020). In mobile banking, quality of the system is an important factor that helps in establishing the user's attitudes towards the effectiveness and efficiency of the digital services that are rendered. An instantly understandable interface, quick transaction processing times, and reliable connections are among the features that will boost user convenience and trust (Susanto et al., 2023). Following the DeLone and McLean Information Systems Success model, quality of the system is an inseparable part of the success of an information system since it directly impacts user gratification and their readiness to continue using the system (Karyono et al., 2024). Moreover, besides system quality, user satisfaction is also a major factor in the adoption of the information system. User satisfaction is the outcome of a good technology experience, and it is a reflection of how much the user's expectations are met or even surpassed (Tannady & Dewi, 2024). In mobile banking, user's satisfaction may be due to the ease of transactions, speed of service, and security perceptions. As a result, customers who experience a satisfactory service are probably going to share their positive experiences which, consequently, will increase the overall number of users (Setiadi et al., 2023). According to the ECM (Expectation-Confirmation Model) theory, one of the elements leading to a sustained usage intention is the satisfaction of the user after the technology has been used.

Effort expectancy is the other thing that significantly determines whether people will use information systems. It is a parameter indicating a user group's difficulty in learning and using technology (Setiadi et al., 2024; Wahyoedi et al., 2024). The most significant single factor out of all others recognized by the UTAUT (Unified Theory of Acceptance and Use of Technology) model leading to the acceptance of a system by a new user is effort expectancy. In the case of mobile banking, it is very likely that users will employ technological innovations if they see the system as self-learning, requiring less energy and being full of helpfulness (Nurhayati et al., 2022). The user's perception of technology is easy to use, especially when there is a huge gap in digital literacy among users. Technology usage becomes greatly facilitated when mobile banking applications are designed to be user-friendly and intuitive (Harahap et al., 2025). In light of that, the current research is to investigate the effect of system quality, user satisfaction, and effort expectancy on the acceptance of information systems by mobile banking users in Indonesia. From the lens of theory, the study is to be instrumental in opening up more theoretical avenues related to factors that lead to the acceptance and use of digital-based information systems and that is particularly the case in the financial sector. The outcome of the study will be very important to banking management as it will serve as a roadmap in strategizing their technology development, digital service quality enhancement, and user experience improvement.

METHOD

The research uses a quantitative approach along with a survey technique. It focuses on understanding the influence of system quality, user satisfaction, and effort expectancy on the usage of information systems by mobile banking users in Indonesia. The universe of this research was limited to active users of mobile banking applications across different banks in Indonesia who had used the service for minimum of six months. A sample of 200 respondents was selected through purposive sampling. The selection criteria for the respondents were

made in accordance with the context of the study, i.e., (1) users of mobile banking apps who are financial transaction service users, (2) 20–45-year-olds forming the productive digital users group, (3) users who have already worked with at least two of the major features, namely transfers, bill payments, and digital purchases, and (4) users who are completely willing to answer the questionnaire. The research tool was put through a validity test which utilized a t-test (item-total correlation), under which an item is declared valid if its correlation coefficient is > 0.30 and its significance level is < 0.05 . The reliability of the measurement was assessed by Cronbach Alpha, with an α value > 0.70 being a good indicator of the reliability. Subsequently, before carrying out regression analysis, the data went through classical assumption tests which were normally distributed, homoscedasticity, and multicollinearity. The normality test was performed to check whether or not the data were normally distributed, the heteroscedasticity test was done to find out if the variances of the residuals were equal across observations, and the multicollinearity test was used to test for the presence of a strong correlation between the independent variables (tolerance > 0.10 and VIF < 10). Eventually, the data analysis was carried out through multiple linear regression in order to study the simultaneous effects of each predictor on the dependent variable.

RESULT AND DISCUSSION

The findings of the multiple linear regression analysis show that this research model is significant when considered jointly. The computed F-value of 61.42 is higher than the F-table of 3.05 at a 0.000 significance level < 0.05 . This demonstrates that system quality, user satisfaction, and effort expectancy jointly significantly influence user adoption of information systems in mobile banking users. The coefficient of determination (R^2) value of 0.70 reveals that 70% of the changes in the user adoption variable can be accounted for by the three independent variables, while the other 30% is due to factors outside the model, such as perceived trust, security concern, and facilitating conditions. To a certain extent, the t-test outcomes show that the changes in the variables which were not dependent have increased the dependent variable positively and significantly. Every computed t-value exceeds the t-table (1.97), and the significance value is less than 0.05. Hence, the present study model finds empirical support and coherence with the theory suggesting that system quality, user satisfaction, and perceived ease of use are the main factors resulting in information system adoption in mobile banking services.

The research results point to system quality as one of the elements that has a positive and significant impact on the user adoption of information systems, particularly among mobile banking users. Moreover, it is stated that the system quality perceived by users is the primary factor that leads them to the adoption and continuous use of the application. Application response speed, system reliability in processing transactions, network stability, and user data security were the points of reference for the particular system quality. For instance, in mobile banking, a system with an intuitive interface, quick loading, and easily accessible transaction features can greatly facilitate the user and thus make the user trust the digital banking services. Whereas, if there are frequent interruptions or errors, users may become indifferent to the app. It implies that enhancing system quality not only aims as a technical aspect but also as a strategy to deepen customer loyalty and trust in the digital technology provided by banking institutions.

Along with system quality, user satisfaction was also identified as having a positive and significant impact on the adoption of information systems by mobile banking users. This result signifies that the user's feeling of satisfaction upon system interaction is the main factor

that leads the user to have the intention of using the application further. User satisfaction arises when a digital service fulfills the user's expectations, whether it is in the case of easy navigation, fast transaction, reliable system, and secure data. In the case of banking services, users who are satisfied will become highly trusting of the mobile banking application and probably will use it more for other features like digital investments, bill payments, and electronic balance top-ups. Hence, the bank management has to make sure that every system update is aimed at enhancing the user experience for them to keep their satisfaction and thus system adoption will increase gradually and in a sustainable way.

The empirical evidence from the study reveals that the expected effort has a direct and significant securing influence on the adoption of information systems by mobile banking users. Put differently, the simplest the system is to handle, the user's will to technology adoption and utilization would be the greatest. The expected effort is the user's view of the amount of effort that is required to familiarize and operate the system. With that being said, in mobile banking, the ease of use of services, a user-friendly interface, and a simple user's manual are the key factors that motivate the users to repeat the usage of the application. Those users who find the system easy to comprehend and are not engaging in the task of giving more time or effort will be more receptive to digital innovations offered by banks. These findings are in line with the Unified Theory of Acceptance and Use of Technology (UTAUT) model which argues that the perceived ease of use is one of the major factors that lead to technology adoption intention. Consequently, the creation of mobile banking apps should focus more on the aspects of simplicity and performance, at the same time, take into consideration the users who vary in age and digital literacy levels.

CONCLUSION

The research has found that system quality, user satisfaction, and effort expectancy are three factors that have a positive and significant impact on the adoption of information systems by users of mobile banking in Indonesia. Such findings show that the success of the implementation of an information system in digital banking is very much dependent on how users perceive the quality of the system, their satisfaction, and the ease of use of the application. One good system quality can definitely bring about trust and make users feel safe in conducting their transactions. A high level of user satisfaction will surely deepen loyalty and make application usage frequency increase. On the other hand, perceived ease of use (effort expectancy) is a factor that helps in alleviating the psychological and technical barriers that result in a decrease in adoption intentions. From a managerial point of view, banking institutions are recommended to keep on investing in the improvement of the quality of the digital system. It may include the improvement of transaction speed, application stability, and data security. Besides that, user experience is also important for a bank to take care of by giving a simple interface, an attractive display, and a help section that is responsive to the user's needs.

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