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The Empirical Study of Technology Acceptance Model among Mobile Banking Users in Indonesia

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Abstract

Mobile banking is an innovation of banking services developed to facilitate the activities and financial transactions of customers. Mobile banking offers a high degree of ease and flexibility so it can be used anywhere and anytime through the practices of each user. The continued use of mobile banking is influenced by several important factors including expectation-confirmation, satisfaction, and perceived usefulness. The study aims to test the role of the above three factors in their influence on sustainable intentions among mobile banking users in Indonesia. The explanatory research with this quantitative approach involved 326 respondents in an online questionnaire-based survey. Using partial least square (PLS-SEM) as the data analysis technique, this study explains that perceived usefulness and satisfaction have a significant influence on continuous usage intention while expectation-confirmation has no significant effect on the continuous intention.

Keywords: *Technology Acceptance Model, Mobile Banking, Continuous Usage Intention, Expectation-Confirmation, Perceived Usefulness, Satisfaction.*

Introduction

Indonesia has experienced rapid economic progression in recent years, albeit with fluctuations. According to national income data from Statistics Indonesia (BPS), the country's gross domestic product (GDP) growth rate was 3.70% in 2021. This was followed by a higher growth rate of 5.31% in 2022. However, in 2023, Indonesia witnessed a slight decline, with GDP growth moderating to 5.05% (BPS, 2024). Rapid economic growth requires the full supporting role of banking and financial institutions (Hejazeen & Yamin, 2024). Financial institutions exert a clear influence on the main components of a country's output, namely savings and investment (Lebdaoui and Wild, 2016; Hoai & Quyet, 2024). These institutions are tasked with taking proactive measures to maintain corporate governance, ensure robust risk management practices, and promote financial diversification. Robust economic growth presents opportunities for the financial sector to develop further, thereby catalyzing even faster growth in a virtuous cycle.

Moreover, as Mullan et al. (2016) assert, rapid economic expansion drives changes and innovations in the way banks distribute services to their customers. Initially, the advent of automated teller machines (ATMs) in the 1970s revolutionized banking services. This was followed by the introduction of phone banking, including SMS banking, in the 1980s. The early 1990s witnessed the emergence of digital banking, encompassing internet banking services. Conventional banking is often considered less flexible than its digital counterpart, as it is constrained by greater freedom in terms of time and location for conducting transactions, while also being more economical. Operating hours and physical branch locations, in contrast with the digital banking affords customers (Kim & Kim, 2024).

Electronic banking, including the mobile version, has garnered special attention from various stakeholders, including governments, financial institutions, academics, and researchers, to safeguard user interests. In Indonesia, the central bank, Bank Indonesia, has been actively encouraging financial digitalization through initiatives such as the National Non-Cash Movement and the development of fast, efficient, and secure payment systems (Bank Indonesia, 2020). The electronification program launched has been successfully

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implemented in toll road transactions (Hejazeen & Yamin, 2024), where all payments are now conducted through non-cash means, with plans to expand to various other sectors, including transportation, social assistance, and transactions originating from central and regional governments. This strong government support has prompted all banks to invest substantially in their respective digital banking service offerings (Ahmed & Sur, 2021). These circumstances of this digitalization drive required individuals to rapidly adapt and develop new habits around using digital payments (Siagian et al., 2022), which felt unfamiliar initially but eventually became more comfortable and efficient. This adoption of new digital payment behaviors was driven by positive word-of-mouth recommendations and people's continued intention to embrace these changes (Rahi & Ghani, 2019).

Behavioral actions among electronic and mobile banking service users (Hejazeen & Yamin, 2024) have been observed in several previous related works derived from Technology Acceptance Model (TAM) that involve behavioral intention influenced expectation-confirmation, satisfaction, and user perceptions. According to Chen et al. (2009), behavioral intention refers to the user's intention to repeatedly utilize a service, influenced by the confirmation of expectations before and after the purchase or initial use. Satisfaction is believed to exert a significant influence on post-purchase attitudes and intentions to repurchase or reuse a service (Tarigan et al., 2020).

Foroughi and Iranmanesh (2019) and Kim & Kim (2024) posit that continuous intention is not only shaped by perceived benefits, ease of use, and user satisfaction but also influenced by the attitude users develop when using digital banking services. Alongside the intention for continuous use, Rahi and Ghani (2019) identify expectation-confirmation as one of the factors experienced when directly using a technology service. Expectation-confirmation refers to the motivation that arises after the user initially uses a service and the level of user acceptance that determines the continuation of service usage (Palumian et al., 2021). Changes in user expectations with perceived usefulness, rather than perceived performance, affect the influence of perceived performance on satisfaction and confirmation (Rahi & Ghani, 2019; Palumian et al. 2023). Perceived usefulness is defined as the degree to which an individual believes that a service can enhance their performance (Jammil & Qayyum, 2021). In addition to that all, satisfaction is a crucial factor in driving a company's success because the impact resulting from user satisfaction is highly beneficial for the company, including fostering the user's intention to reuse the service (Hoai & Quyet, 2024). Maintaining user satisfaction can be achieved by responding promptly to complaints and maintaining the quality of the products or services offered (Othman et al., 2019).

According to Rughoobur-Seetah and Hosanoo (2021), a positive increase in service quality further enhances user satisfaction. This empirically proves and confirms that perceived usefulness is positively related to perceived satisfaction (Siagian et al., 2022). As noted by Rahi et al. (2021), the significant impact of the benefits received and satisfaction felt during the use of mobile services has been proven in research conducted by Cheng (2020), Belache et al. (2019) and Garzaro et al. (2021). Therefore, perceived benefits are the extent to which users feel that using mobile payment will improve their job performance or daily activities (Tarigan et al., 2022). Banks have made substantial investments in mobile digitalization, demonstrating a proactive response to the changing times and economic landscape.

This study will employ mobile banking users as the research subject who have utilized these services for at least one month from various existing banks in Indonesia, such as BCA mobile banking, Livin' Mandiri, BRI mobile banking (BRImo), BNI mobile banking, and OCTO mobile.

Based on the description of the background and phenomena above, this study focuses on analyzing the perspectives of mobile banking service users from various banks in Indonesia in the form of expectation-confirmation, perceived usefulness and usage satisfaction on the intention to continue using mobile banking services.

Research Questions and Objectives

Based on the contextual background provided, the following research questions emerge:

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RQ1: To what extent do the constructs of expectation-confirmation, perceived usefulness, and satisfaction influence the continuous usage intention among users of mobile banking services?

RQ2: To what extent do expectation-confirmation and perceived usefulness impact satisfaction levels among mobile banking users?

RQ3: Does satisfaction act as a mediating variable between expectation-confirmation, perceived usefulness, and continuous usage intention in the context of mobile banking adoption?

Simultaneously, this study aims to comprehensively investigate the factors influencing continuous usage intention among mobile banking users. The primary objective is to examine the influence of expectation-confirmation, perceived usefulness, and satisfaction on users' intention to persistently utilize mobile banking services (1). Furthermore, the research seeks to understand the impact of expectation-confirmation and perceived usefulness on user satisfaction within this context (2). Notably, the study endeavors to assess whether satisfaction acts as a mediating variable between expectation-confirmation, perceived usefulness, and continuous usage intention, potentially unveiling intricate relationships that govern mobile banking adoption (3). By addressing these objectives, the research endeavors to contribute insights that can inform strategies for enhancing user experiences and fostering sustained engagement with mobile banking platforms.

Literature Review

Technology Acceptance Model

The technology acceptance model (TAM), originally formulated by Davis (1989) and further refined by scholars like Bhattacherjee (2001) and Kim et al. (2009), concentrates on the process through which novel technologies are adopted and accepted by users. Its primary focus lies in examining the continued utilization and post-adoption phases of information technology (Lindsay et al., 2011). TAM stands as one of the most extensively employed models for identifying the factors that influence the integration of new technologies within organizations and determining the underlying reasons behind users' acceptance or rejection of such technologies (Tarigan et al., 2020). This theory posits that when individuals are introduced to innovative technologies, their decisions regarding if and how they are willing to utilize these technologies are shaped by a multitude of influential factors (Palumian et al., 2021).

Al-Amin et al. (2020) advocate for an integrated approach that combines the technology acceptance model (TAM) with the expectation-confirmation theory (ECT), adopted from Bhattacherjee (2001). As per Shiau et al. (2020), the expectation-confirmation theory (ECT) comprises four primary constructs: expectation-confirmation, perceived usefulness, satisfaction, and continuous intention. Expectation-confirmation refers to the extent to which users perceive their initial expectations to be confirmed during the actual service usage. User expectations can evolve as the perceived experience and expectations received during service utilization increase. Digital banking services that effectively deliver perceived usefulness to users can meet expectations and enhance user satisfaction (Siagian et al., 2022; Kim & Kim, 2024). Shiau et al. (2020), drawing from Venkatesh et al. (2003), assert that perceived usefulness has been established as a stable variable for investigating user behavior, both in the early stages and after prolonged use.

Expectation-Confirmation and Continues Intention

As stated by Poromatikul (2019), users form expectations about a service prior to utilizing it. These preconceived expectations are shaped by past experiences, accounts from other users, and various other sources. The expectation-confirmation construct can influence continuous intention when the perceived performance exceeds the anticipated performance levels. However, Poromatikul (2019) notes that the impact of expectation-confirmation on continuous intention may not be significant. Huang et al. (2020), elucidate that customer expectations and service performance are the key determinants of post-purchase or post-usage behavior. Initially, users harbor certain expectations regarding a service before experiencing it firsthand. Upon utilizing the service, users develop perceptions about its performance. Subsequently,

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users compare these perceived performance levels with their initial expectations, thereby assessing whether their expectations have been confirmed or not.

Perceived Usefulness and Continues Intention

Lim et al. (2019) posit that users who perceive a service as useful, finding it aligned with their needs, develop a continuous intention to utilize it on an ongoing basis. This continuous intention can lead to further positive outcomes, such as the desire to recommend the service to others, enabling them to experience its benefits as well. Another study, conducted by Shiau et al. (2020), assert that services that prove useful in alleviating users' burdens, especially in their daily lives, foster a positive relationship with continuous intention. As users derive increasing usefulness from a service, their desire to continue using it persistently, potentially even adopting it as an investment instrument, grows stronger.

Satisfaction as a Mediating Role

Expectation-confirmation exerts an influence on continuous intention because users seek to perpetuate their use of a service when their experience proves satisfactory (Tarigan et al., 2020). Prior research has demonstrated that expectation-confirmation positively impacts user satisfaction (Cheng, 2020). According to Rahi et al. (2021), the fulfillment of user expectations is evidenced by maintaining trust, reliability, integrity, and security levels between all parties involved, thereby fostering a positive relationship. Given the inherent risks associated with the internet, expectation-confirmation significantly shapes satisfaction, which stems from a set of beliefs encompassing the honesty, competence, and benevolence of service providers.

Furthermore, Rahi and Ghani (2019) posit that perceived usefulness, as recognized by users, bears a significant relationship with continuous intention, as it is influenced by satisfaction. When perceived usefulness aligns with user expectations, users experience happiness, and the intention to continue using the service arises. Conversely, a perceived lack of usefulness diminishes users' intentions for continued use (Palumian et al., 2021). Satisfaction exerts a positive impact on continuous intention because users feel aided in their endeavors, fostering a sense of attachment (Tarigan et al., 2022). The perceived benefits instill hope for continued usage intentions and heighten satisfaction with the service (Rahi et al., 2021).

Research Framework and Hypothesis

This study adopts a deductive approach, drawing upon previous works by Lim et al. (2018) and Rahi et al. (2021). The proposed research framework seeks to empirically investigate the direct effects of expectation-confirmation and perceived usefulness on user satisfaction, as well as the influence of these constructs on continuous usage intention within the context of digital banking services. Additionally, the framework examines the indirect effects of expectation-confirmation and perceived usefulness on continuous usage intention, mediated through user satisfaction. Based on an extensive review of the literature and the research model, the following hypotheses are formulated:

H_1: Expectation-confirmation positively influences the continuous usage intention of mobile banking services.

H_2: Perceived usefulness positively influences the continuous usage intention of mobile banking services.

H_3: User satisfaction positively influences the continuous usage intention of mobile banking services.

H_4: Expectation-confirmation positively influences user satisfaction with mobile banking services.

H_5: Perceived usefulness positively influences user satisfaction with mobile banking services.

H_6: Expectation-confirmation indirectly influences continuous usage intention through its effect on user satisfaction.

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H_7: Perceived usefulness indirectly influences continuous usage intention through its effect on user satisfaction.

Research Method

This study adopted a quantitative approach and employed a cross-sectional survey design to investigate the factors influencing the continuous usage intention of mobile banking applications among users in Indonesia. The quantitative methodology was deemed appropriate as it allows for the empirical examination of relationships between variables through statistical analysis of numerical data (Sekaran & Bougie, 2016, p300).

The target population for this research comprised individuals residing in Indonesia who actively utilize mobile banking applications provided by various banks. Non-probability sampling techniques were utilized due to the lack of a comprehensive sampling frame. Specifically, a purposive sampling method was employed, wherein participants were recruited based on predetermined eligibility criteria (Sekaran & Bougie, 2016, p271). The sample size was determined using the guidelines proposed by Ferdinand (2017, p173), which suggested a minimum of 130 observations for models with seven or fewer constructs. Considering the research model and the potential for incomplete or invalid responses, a larger initial sample was targeted.
Data were collected through an online survey administered using the Google Forms application. The survey comprised a structured questionnaire that captured demographic information and measured the relevant constructs using multi-item scales adapted from previous studies. The questionnaire was distributed to 358 prospective respondents. Upon screening the responses, 32 participants were deemed ineligible as they did not meet the inclusion criteria of being at least 18 years old and having used mobile banking applications for a minimum of three months. Consequently, the final sample consisted of 326 valid observations.

Furthermore. the collected data were analyzed using partial least squares structural equation modeling (PLS-SEM), a variance-based technique suitable for exploratory research and complex models with multiple constructs. The SmartPLS 3.0 software was employed for this purpose, enabling the assessment of both the measurement model (reliability and validity) and the structural model (hypotheses testing).

The research instrument comprised a structured questionnaire that captured demographic information and measured the relevant constructs using multi-item scales adapted from previous studies. Specifically, the scales for measuring expectation-confirmation, perceived usefulness, satisfaction, and continuous usage intention were adopted and modified from Lee et al. (2021), Lim et al. (2018), and Kim et al. (2021). These scales have demonstrated acceptable reliability and validity in prior research contexts. All items were measured using a 5-point Likert scale, where 1 represented "strongly disagree" and 5 represented "strongly agree".

Table 1. The Measurement Items

Item Code	Measurement Item	Adaption/Reference
Expectation-Confirmation		Lee et al. (2021)
EC01	I feel a good experience when using mobile banking services in my daily life.	
EC02	I feel that the mobile banking features provided by the bank meet my needs	
EC03	I feel that the mobile banking services provided by the bank have met my expectations / desires	
Perceived Usefulness		Kim et al. (2021)
UF01	I feel my performance improves when using mobile banking services in daily activities	

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UF02	I feel my productivity increases when using mobile banking services in daily activities.	
UF03	I feel my work effectiveness increases when using mobile banking services in daily activities	
UF 04	I realize the importance of using mobile banking services in my daily activities.	
Continuous Intention		Lim et al. (2018)
CI01	I intend to use mobile banking services continuously into the future	
CI02	I plan to use mobile banking services in my daily life	
CI03	I plan to use mobile banking services with higher intensity	
Satisfaction		Lim et al. (2018)
ST01	Overall, I am satisfied with the mobile banking services provided by the bank	
ST02	I am satisfied with mobile banking services when making financial transactions	
SI03	I feel comfortable when doing financial transactions with mobile banking services	

Results and Findings

Demographic Profile

The demographic profile of the respondents in this empirical study investigating the Technology Acceptance Model (TAM) among mobile banking users in Indonesia reveals several key insights summarized from 326 eligible respondents. A substantial portion of the participants, 55.83%, belong to the 17-25 age group, underscoring the significant representation of younger users. The 46-55 age group constitutes the second-largest cohort, with 22.70% of respondents. The remaining age groups exhibit a relatively lower representation, with 8.59% each for the 26-35 and 36-45 brackets, and 4.29% for those over 55 years old.

Table 2. Demographic Profile

Profile	***n***	**%**
Age Group		
17 – 25 year old	182	55.83%
26 – 35 year old	28	8.59%
36 – 45 year old	28	8.59%
46 – 55 year old	74	22.70%
> 55 year old	14	4.29%
Gender		
Male	149	45.71%
Female	177	54.29%
Occupation		
Students	152	46.63%
Private Company Employee	86	26.38%

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Entrepreneur	47	14.42%
Civil Servant	8	2.45%
Others	33	10.12%
Mobile Banking		
BCA Mobile	254	77.91%
Livin' by Mandiri	29	8.90%
BRImo	14	4.29%
BNI Mobile	8	2.45%
OCTO Mobile	8	2.45%
Others	13	3.99%

Regarding gender distribution, the data reveals a slight predominance of female respondents, accounting for 54.29%, while male participants comprise 45.71% of the sample. An analysis of occupational profiles indicates that students form the largest group, constituting 46.63% of the respondents, followed by private company employees at 26.38%. Entrepreneurs make up 14.42% of the sample, civil servants account for 2.45%, and the remaining 10.12% are categorized as 'Others,' encompassing a diverse range of professions.

When examining mobile banking usage patterns, BCA Mobile emerges as the preferred platform, utilized by a substantial 77.91% of respondents. Other popular mobile banking applications include Livin' by Mandiri (8.90%), BRImo (4.29%), BNI Mobile (2.45%), and OCTO Mobile (2.45%). In addition, 3.99% of respondents reported using alternative mobile banking services. This comprehensive demographic data provides valuable insights into the respondent profile, facilitating a deeper understanding of the acceptance and utilization patterns of mobile banking technologies in the Indonesian context.

Measurement Model Evaluation

This study applies structural model analysis by utilizing the Partial Least Square (PLS-SEM) technique. The initial step in analyzing the obtained data involves conducting a measurement instrument test, which comprises convergent validity, construct validity, and construct reliability assessments. The convergent validity test evaluates the accuracy of the research instrument or measurement tool as represented by the questionnaire statements. To satisfy the convergent validity requirements, each indicator or questionnaire item must exhibit an outer loading value exceeding 0.7 (Abdillah & Hatono, 2015). Furthermore, for the construct validity test, the average variance extracted (AVE) value for each variable or construct must surpass 0.5 (Hari et al., 2014). Additionally, to assess the consistency of the construct, the reliability test in PLS-SEM relies on the composite reliability measure, which necessitates a value of at least 0.7 (Abdillah & Hartono, 2015).

Table 3. Measurement Model Result

Variable	Item	Factor Loading	Remark
Expectation-Confirmation (EC)			
AVE = 0.763	EC01	0.879	Valid
CR = 0.906	EC02	0.903	Valid
	EC03	0.837	Valid
Perceived Usefulness (UF)			
AVE = 0.716	UF01	0.877	Valid
CR = 0.909	UF02	0.880	Valid

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	UF03	0.874	Valid
	UF04	0.746	Valid
Continuous Intention (CI)			
AVE = 0.734	CI01	0.875	Valid
CR = 0.892	CI02	0.886	Valid
	CI03	0.807	Valid
Satisfaction (ST)			
AVE = 0.819	ST01	0.900	Valid
CR = 0.931	ST02	0.917	Valid
	ST03	0.898	Valid

An examination of Table 3 reveals that the composite reliability (CR) values for all constructs surpass the recommended threshold of 0.7, indicating adequate internal consistency reliability. Furthermore, the average variance extracted (AVE) values for all constructs exceed the suggested threshold of 0.5, demonstrating good convergent validity. Notably, all factor loadings exceed the threshold of 0.7, signifying that the items serve as reliable indicators of their respective constructs. To summarize the findings of this step, the measurement model exhibits satisfactory reliability and validity, laying a robust foundation for the subsequent structural model analysis.

Structural Model Evaluation

The evaluation of the structural model involves assessing the explanatory power and predictive relevance of the proposed relationships between the constructs. The R-squared (R^2) values provide insights into the proportion of variance explained by the predictor variables for the endogenous constructs.

The R^2 value for Satisfaction (ST) is 0.676, indicating that Expectation-Confirmation (EC) accounts for 67.6% of the variance in Satisfaction among mobile banking users. This substantial R^2 value underscores the strong explanatory power of Expectation-Confirmation in predicting Satisfaction. Similarly, the R^2 value for Continuous Usage Intention (CI) is 0.627, suggesting that Expectation-Confirmation (EC), Satisfaction (ST), and Perceived Usefulness (UF) collectively explain 62.7% of the variance in Continuous Usage Intention. This considerable R^2 value highlights the significant influence of these factors on users' intentions to continue utilizing mobile banking services.

Given the high R^2 values obtained (0.676 for ST and 0.627 for CI), the Q^2 values are expected to be positive and significant, indicating good predictive relevance. Positive Q^2 values confirm that the model possesses strong predictive capabilities, enabling accurate predictions of the endogenous constructs, Satisfaction and Continuous Usage Intention, based on the predictor variables.

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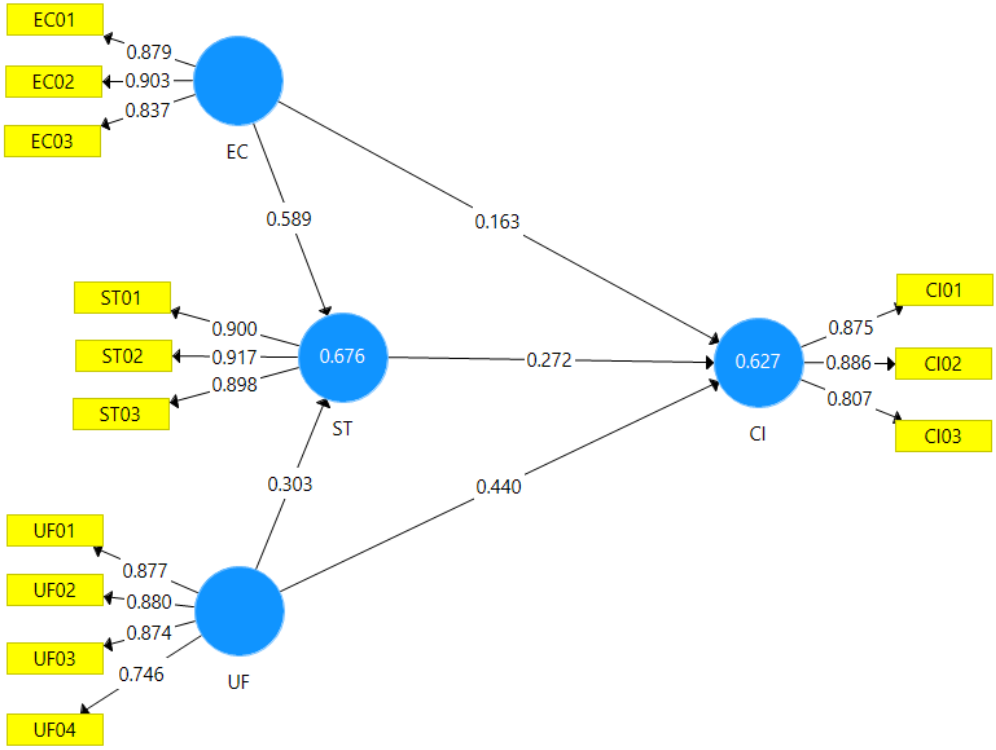

Figure 2. The Structural Model

Hypotheses Testing

The hypothesis testing results obtained through the Partial Least Square (PLS-SEM) technique using SmartPLS 4.0 software provide significant insights into the factors influencing the continuous usage intention of mobile banking services among users in Indonesia. The findings offer strong support for most of the hypothesized relationships. To satisfy this test, as outlined by Chin (2009), specify that t-statistics must exceed 1.96 or p-value less than 0.05 (for a two-tailed test) in order to support the proposed hypothesis.

Table 4. Hypotheses Result

Hypothesis	Path	Path Coefficient	T-Statistics	P-Values	Remark
H1	EC → CI	0.163	1.893	0.059	Not Supported
H2	UF → CI	0.440	5.334	0.000	Supported
H3	ST → CI	0.272	3.436	0.001	Supported
H4	EC → ST	0.589	8.481	0.000	Supported
H5	UF → ST	0.303	4.549	0.000	Supported
H6	EC → ST → CI	0.161	3.301	0.001	Supported
H7	UF → ST → CI	0.083	2.626	0.009	Supported

The results indicate that perceived usefulness (UF) and user satisfaction (ST) positively influence the continuous usage intention (CI) of mobile banking services, as evidenced by the significant path coefficients of 0.440 (t-statistic = 5.334, p-value < 0.001) and 0.272 (t-statistic = 3.436, p-value = 0.001) for H2 and H3, respectively. These findings suggest that users who perceive mobile banking services as useful and are satisfied with their experience are more likely to continue using these services. Additionally, the results support the hypotheses that expectation-confirmation (EC) and perceived usefulness (UF) positively

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influence user satisfaction (ST) with mobile banking services. The path coefficients for H4 (0.589, t-statistic = 8.481, p-value < 0.001) and H5 (0.303, t-statistic = 4.549, p-value < 0.001) are both significant, indicating that when users' expectations are met, and they perceive the services as useful, their satisfaction levels increase.

However, the hypothesis H1, which proposed that expectation-confirmation (EC) positively influences the continuous usage intention (CI) of mobile banking services, is not supported by the data. The path coefficient of 0.163 is not statistically significant (t-statistic = 1.893, p-value = 0.059), suggesting that expectation-confirmation alone may not directly lead to continued usage intention of mobile banking services.

The results also confirm the mediating role of user satisfaction (ST) in the relationships between expectation-confirmation (EC), perceived usefulness (UF), and continuous usage intention (CI). The path coefficients for H6 (0.161, t-statistic = 3.301, p-value = 0.001) and H7 (0.083, t-statistic = 2.626, p-value = 0.009) are significant, indicating that expectation-confirmation and perceived usefulness indirectly influence continuous usage intention through their positive effects on user satisfaction.

In summary, the results provide valuable insights into the factors influencing the continuous usage intention of mobile banking services in Indonesia. While expectation-confirmation does not directly impact usage intention, it plays a crucial role in enhancing user satisfaction, which, along with perceived usefulness, drives continued usage. These findings can inform strategies for improving user experiences and promoting long-term adoption of mobile banking services

Discussion

This study reveals that expectation-confirmation has no significant effect on continuous usage intention in the context of mobile banking in Indonesia, with a p-value of 0.059 and a T-statistic of 1.893. This finding is in line with previous studies by Poromatikul (2019) and Chen (2012) which show that users' first impressions of services do not always reflect their intention to continue using them. This may be due to the actual experience of using mobile banking services that are more decisive than users' initial expectations.

In contrast, perceived usefulness is shown to have a significant effect on continuous usage intention, with a p-value of 0.000 and a T-statistic of 5.334. This finding is consistent with the research of Lim et al. (2018) which states that high perceived usefulness encourages users to continue using the service. Users who feel their productivity increases with the use of mobile banking tend to have a strong intention to continue using this service on an ongoing basis. In addition, satisfaction was also found to have a significant effect on continuous usage intention, with a p-value of 0.001 and a T-statistic of 3.436. This research is in line with the findings of Shiau et al. (2020) which shows that user satisfaction plays an important role in encouraging continuous usage intention. The satisfaction felt by users when using mobile banking services increases their desire to continue using the service.

Furthermore, this study shows that expectation-confirmation and perceived usefulness have a significant effect on satisfaction, with a p-value of 0.000 and a T-statistic of 8.481 and 4.549, respectively. This finding supports the research of Lee and Sheehan (2021) and Lim et al. (2018) which state that fulfilled expectations and high perceived usefulness increase user satisfaction. This satisfaction, in turn, mediates the relationship between expectation-confirmation and perceived usefulness with continuous usage intention, suggesting partial mediation.

The indirect effect of expectation-confirmation on continuous usage intention through satisfaction with a p-value of 0.001 and a T-statistic of 3.301, as well as the indirect effect of perceived usefulness on continuous usage intention through satisfaction with a p-value of 0.009 and a T-statistic of 2.626, emphasize the importance of satisfaction as a mediator. This finding is consistent with the research of Rahi et al. (2021) and Rahi and Ghani (2019) who showed that user satisfaction as a result of fulfilled expectations and perceived usefulness, positively influences continuous usage intention.

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Overall, this study provides important insights into the factors that influence the intention to continue using mobile banking in Indonesia. This research emphasizes the importance of paying attention to the overall user experience and ensuring that mobile banking services not only meet users' initial expectations but also provide tangible benefits that increase their satisfaction. This, in turn, will encourage continued use of the service. The findings also highlight the need to improve the quality of mobile banking services to ensure long-term user satisfaction and engagement.

Practical Implication

The quantitative findings highlight that users' initial expectations when first experiencing mobile banking are a key concern shaping their satisfaction levels. Alternatively, mobile banking services that effectively accommodate diverse user needs tend to be most favored. Facilitating increased productivity emerges as the primary motivator for adopting mobile banking in daily activities. Users are inclined to avoid overly complicated mobile banking interfaces that hinder rather than streamline their routines. Developing straightforward, user-friendly mobile applications capable of supporting daily tasks appears to significantly and directly impact user satisfaction and continuance intentions. This underscores that when users encounter difficulties or dissatisfaction with an application, it diminishes the fulfillment of their original expectations, consequently lowering satisfaction and reducing intentions for continued future use.

In essence, designing mobile banking platforms that align with initial user expectations for simplicity and utility in enhancing productivity is pivotal for driving satisfaction and promoting long-term adoption. Falling short on either functionality or ease-of-use can undermine users' evaluations of their experience against their a priori expectations, thereby impeding satisfaction and sustained engagement with the technology.

Research Limitation and Future Research

Like all research endeavors, this study is subject to certain limitations. The quantitative study was conducted with research participants who were users of mobile banking services, predominantly customers of Bank Central Asia (BCA). As the largest bank in Indonesia, especially in urban areas, BCA's customer base resulted in an uneven distribution of respondents based on their chosen mobile banking provider. Future research should consider more appropriate sampling techniques, such as cluster or quota sampling approaches, to ensure a more equitable distribution of data based on respondents' preferred bank profiles. Additionally, the application of a t-test or multigroup analysis within the PLS-SEM bootstrapping method could yield more nuanced and insightful business implications related to the application of the Technology Acceptance Model (TAM) among mobile banking service users in the Indonesian market.

Conclusion

To sum up, we have highligh, this study found that expectation-confirmation is an important factor in generating user satisfaction. The better the users' initial acceptance of mobile banking services, the easier it is for them to feel satisfied, and conversely, the lower the users' expectation-confirmation, the more difficult it is to achieve satisfaction. In addition, perceived usefulness can also increase user satisfaction. If users feel that mobile banking applications or services are very useful, then their satisfaction will increase, while if they feel otherwise, satisfaction will be difficult to achieve. Thus, these two factors are proven to affect user satisfaction.

User satisfaction is a key determinant for generating continuous intention in using mobile banking services. The higher the perceived satisfaction, the easier it is for users to continue using the service. Perceived usefulness also has a significant influence on users' continuous intention. The greater the perceived benefits of using a mobile banking application, the stronger the user's intention to continue using it. However, expectation-confirmation does not directly affect user continuance intention. Nevertheless, expectation-confirmation can influence continuance intention indirectly through user satisfaction. This research confirms the importance of increasing perceived usefulness and expectation-confirmation to increase users'

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satisfaction and continuous intention towards mobile banking services satisfaction and continuous intention.

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