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Extending the Expectation Confirmation Model to Examine Continuous Use Mobile Banking: Security, Trust, and Convenience

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Abstract—**Background:** Mobile banking adoption continues to grow, but user retention remains a challenge. Understanding the factors influencing continuance intention is crucial for improving long-term engagement. Prior research highlights the importance of confirmation, perceived usefulness, security, satisfaction, trust, and convenience, yet their interrelationships require further exploration. **Objective:** This study examines key determinants of users' intention to continue using mobile banking services, focusing on how confirmation, perceived usefulness, security, satisfaction, trust, and convenience influence this decision. **Methods:** A quantitative study was conducted using structural equation modeling (SEM) to analyze relationships among these factors. Data were collected from mobile banking users and assessed for statistical significance. **Results:** Confirmation significantly impacts perceived usefulness (0.576) and satisfaction (0.527). Perceived usefulness influences satisfaction (0.289) and continuance intention (0.396), while satisfaction also affects continuance intention (0.240). Trust plays a role (0.211), and perceived security strongly influences trust (0.651). Perceived convenience also impacts continuance intention (0.304), emphasizing its importance in user experience. **Conclusion:** Confirmation and security are critical for satisfaction and trust, which drive continued mobile banking use. Strengthening security, improving perceived usefulness, and fostering trust can enhance user retention. Future studies should explore additional variables, test the model across demographics, and assess the impact of emerging technologies like AI and blockchain. Longitudinal and experimental research may offer deeper insights into these evolving relationships.

Keywords—Mobile Banking; ECM, Perceived Security; Trust; Continuance Intention

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I. INTRODUCTION

Mobile banking has transformed the traditional banking paradigm by expanding accessibility and simplifying financial transactions [1]. This technological advancement has led to a fundamental shift in banking by enabling users to access services without geographical or time constraints. Through mobile banking applications, individuals can easily perform various banking services, such as fund transfers, bill payments, and balance inquiries. This development has opened new opportunities, particularly for individuals who previously had difficulty accessing conventional banking services, while also offering a more efficient and flexible alternative for managing personal finances [2], [3]. According to a survey by the Indonesian Internet Service Providers Association [4], the number of internet users in Indonesia reached 221,563,479 in 2024, out of a total population of 278,696,200 in 2023. The internet penetration rate reached 79.5%, representing a 1.4% increase compared to the previous period. This indicates a positive trend over the past five years Figure 1.

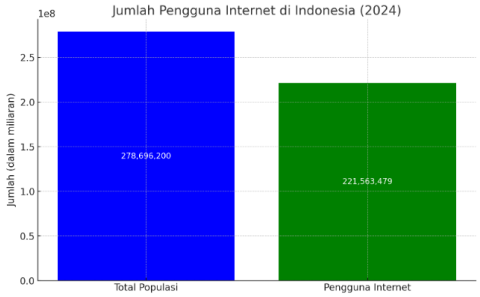

Fig 1. Internet Users in Indonesia as a Percentage of Total Population [4]

Furthermore, surveys from Bank Indonesia [5] and the Indonesian Financial Services Authority (2024) reveal that 68% of banking users in Indonesia have adopted mobile banking services for various financial transactions [6]. This is further supported by a report from McKinsey & Company (2023) [7], which states that approximately 50% of all banking transactions in Indonesia are now conducted through digital channels. However, despite the growing adoption of mobile banking, challenges in user retention persist. The Financial Services Authority (2023) reported that 35% of mobile banking users in Indonesia discontinue using these services within the first six months, due to reasons such as security concerns, lack of trust, and dissatisfaction with the ease of use of the applications [5], [6].

This situation highlights the need for a deeper understanding of the factors influencing *mobile banking continuance intention*. The Expectation Confirmation Model (ECM) is a significant framework used to explain how variables such as confirmation, perceived usefulness, satisfaction, trust, perceived security, and perceived convenience play crucial roles in shaping users' intention to continue using mobile banking services [8], [9]. In this context, the present study aims to

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deepen the understanding of the factors driving *mobile banking continuance intention*. By extending the ECM and integrating additional variables such as trust, perceived security, and perceived convenience, this study seeks to provide a comprehensive view of users' perceptions and beliefs regarding mobile banking services. It is hoped that this approach will offer a more holistic perspective in planning sustainable service development strategies that meet users' needs and expectations [8], [9], [10].

The research aims to examine the relationships between the variables in the ECM, while exploring the potential mediating and moderating roles among these factors, to provide valuable insights into the key determinants influencing individuals' decisions to continue using mobile banking services. The empirical approach proposed in this study is expected to provide a deeper understanding of the factors affecting users' decisions to sustain mobile banking usage. Additionally, the research will explore the possible interactions between these variables, which may strengthen or moderate their relationships, ultimately forming more effective strategies to drive mobile banking adoption and retention. As such, this study aims to contribute significantly to the understanding of mobile banking user behavior [8].

This deeper understanding of the dynamics surrounding users' decisions regarding mobile banking adoption is expected to offer valuable guidance to service developers seeking more effective ways to enhance adoption and retention. Therefore, this study is expected to make a significant contribution to both the academic understanding of mobile banking user behavior (Lee et al., 2023) and to financial institutions and researchers in the fintech field, providing insights for designing more effective and responsive strategies to meet the ever-changing market demands [10]. The motivation behind this research is to explore the complexity of the factors that influence individuals' decisions to continue using mobile banking services through the development and testing of an extended Expectation Confirmation Model. With a deeper understanding of these dynamics, it is hoped that more effective strategies can be designed to increase mobile banking adoption and retention while contributing to the ongoing transformation of the banking industry driven by technology.

Literature Review The rapid adoption of mobile banking has drawn significant interest from researchers, particularly since the advent of smartphones, which have made internet access more accessible and faster. Technological advancements have dramatically affected various aspects of life, including communication, transaction systems, and customer service [11]. Mobile banking has not only provided convenience and efficiency in financial transactions but has also introduced potential risks, such as impulsive spending behavior and financial mismanagement. However, on the positive side, the increased use of mobile banking has the potential to boost overall economic

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productivity by facilitating faster and more secure transactions while broadening access to financial services.

This study aims to build upon previous research on mobile banking continuance intention by utilizing the Expectation Confirmation Model (ECM), a theoretical framework frequently used to examine how user expectations influence satisfaction and their continued use of mobile banking services. By reviewing the existing literature, this section will provide a comprehensive understanding of the theoretical models and key findings that form the foundation for this study. Mobile banking, as defined by Koi-Akrofi (2022), is a technology-driven banking service that allows customers to conduct financial transactions through mobile devices[12]. This platform facilitates an efficient and accessible interaction between banks and their customers. Alayed (2024) expands on this definition, describing mobile banking as a system that connects multiple users with their banks, enabling the exchange of financial information and services through digital platforms accessible via smartphones. Mobile banking has grown significantly since its introduction in the early 2000s, transforming the way individuals manage their finances and the structure of the financial industry [13].

The Expectation Confirmation Model (ECM), originally developed by Bhattacherjee (2001b), is rooted in the Expectation Confirmation Theory (ECT), which explains how users' post-purchase experiences influence their intent to continue using a product or service (Y. Zhou, 2017). In mobile banking contexts, ECM provides insights into how user satisfaction and perceived usefulness affect their intention to continue using these services. Bhattacherjee & Barfar (2011) adapted ECM to study Continuance Intention the decision to keep using a product or service after initial adoption[14]. The model suggests that customer satisfaction plays a central role in influencing this intention. In mobile banking, ECM can be applied to assess how user satisfaction, based on the confirmation of initial expectations and perceived usefulness, shapes their continued use of mobile banking services[14]. Various studies have expanded the ECM by integrating additional factors like trust and perceived security, which are vital in understanding mobile banking usage. Research by Al Amin et al. (2023) examined how satisfaction and loyalty to mobile payment applications during COVID-19 were influenced by electronic technology continuance, using ECM to understand user behavior. This study highlighted the importance of understanding how changing consumer behavior during a crisis can impact long-term mobile payment usage[10].

In another study, Geebren et al. (2021) applied ECM and the Technology Acceptance Model (TAM) to explore consumer satisfaction in mobile banking ecosystems. Their research found that variables such as prior online shopping experience, perceived ease of use, and confirmation of expectations significantly influenced user satisfaction and loyalty in mobile banking [8].

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Factors Influencing Continuance Intention Several key variables have been consistently highlighted in prior research as crucial in determining mobile banking continuance intention:

1. Perceived Usefulness: The degree to which users believe mobile banking services fulfill their needs [8], [15].
2. Satisfaction: Users' overall contentment with the service, which is influenced by how well the service meets their initial expectations [14], [15].
3. Trust and Perceived Security: Trust in the security of transactions plays a significant role in continued mobile banking usage, as users are more likely to continue using services they perceive as secure [8].
4. Perceived Convenience: The ease with which users can access and use mobile banking services, which is another important factor influencing adoption and continued use [1], [9].

By examining these factors in the context of the Expectation Confirmation Model, this study aims to provide a deeper understanding of the dynamics influencing users' decisions to continue using mobile banking. The integration of additional variables such as trust and perceived security will allow for a more comprehensive analysis, contributing to both theoretical insights and practical recommendations for improving mobile banking services. This review of previous studies establishes a solid theoretical foundation for exploring the factors influencing mobile banking continuance intention. By building on the ECM framework and incorporating additional variables like trust, perceived security, and convenience, this research aims to provide a more nuanced understanding of the factors driving continued mobile banking usage.

Research model, this study adopts the Expectation Confirmation Model (ECM) as the theoretical framework to investigate the factors that influence the continuance intention of mobile banking. The ECM is widely used to explain how user expectations, satisfaction, and perceived usefulness impact the continued use of a product or service. In this extended model, additional variables such as trust, perceived security, and perceived convenience are incorporated to provide a more comprehensive understanding of the dynamics involved in the continuous use of mobile banking services. Based on the analysis presented in Table 1, ten studies have applied the basic structure of the Expectation-Confirmation Model (ECM), which includes Perceived Usefulness, Confirmation, and Satisfaction, as a framework for understanding the adoption and use of mobile banking. Furthermore, these studies have incorporated several external factors that are considered to significantly impact mobile banking usage in the context of financial activities.

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Table 1. Previous research on the Expectation-Confirmation Model (ECM) by Mobile banking

No	Paper	Author
1	Understanding e-satisfaction, continuance intention, and e-loyalty toward mobile payment application during COVID-19: an investigation using the electronic technology continuance model [10]	Al Amin et al., 2023
2	Examining the role of consumer satisfaction within mobile eco-systems: Evidence from mobile banking services [8]	Geebren et al., 2021
3	Understanding continuance intention of artificial intelligence (AI)-enabled mobile banking applications: an extension of AI characteristics to an expectation confirmation model [15]	Lee et al., 2023
4	Exploring the Determinants of Users' Continuance Intention to Use Mobile Banking Services in Kuwait: Extending the Expectation-Confirmation Model [16]	Rabaai & AlMaati, 2021
5	A study on factors affecting service quality and loyalty intention in mobile banking [17]	Q. Zhou et al., 2021
6	Factors influencing continuance intention to use mobile banking: an extended expectation confirmation model with the moderating role of trust [18]	G. Do Nguyen & Dao, 2024
7	M-banking adoption from the developing countries perspective: A mediated model [19]	Abdennebi, 2023
8	"To share or not to share?" – A hybrid SEM-ANN-NCA study of the enablers and enhancers for mobile sharing economy [9]	Leong et al., 2024
9	Impact of online convenience on mobile banking adoption intention: A moderated mediation approach [1]	Jabarajakirty & Shankar, 2021
10	Towards a Cashless Society: The Effects of Perceived Convenience and Security on Gamified Mobile Payment Platform Adoption [20]	Lai & Liew, 2021

Theoretical framework of the ECM posits that users' decision to continue using a service is primarily driven by satisfaction, which is influenced by the confirmation of expectations and perceived usefulness. Satisfaction and perceived usefulness directly affect continuance intention. This model is expanded in this study by including additional variables—trust, perceived security, and perceived convenience which are hypothesized to have significant effects on continuance intention.

A. Core Variables of ECM:

1. Confirmation: Refers to the degree to which users' initial expectations regarding mobile banking are met or exceeded. When users' expectations are confirmed, they are likely to

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perceive the service as useful and feel satisfied, leading to a higher likelihood of continued use [21], [22].

2. Perceived Usefulness: Refers to users' perception of how mobile banking helps them accomplish their financial tasks more efficiently and effectively. A higher perceived usefulness is associated with greater satisfaction and a higher intention to continue using the service [15], [17].
3. Satisfaction: The positive feeling users experience when the mobile banking service meets or exceeds their expectations. Satisfied users are more likely to continue using the service in the future [15].

B. Additional Variables:

1. Trust: Trust is essential in reducing the perceived risk and uncertainty associated with using mobile banking services. Higher trust levels encourage users to continue using the service [18], [19].
2. Perceived Security: Users' perception of the security of mobile banking services, including protection against fraud, privacy breaches, and unauthorized access, influences their trust in the system and, subsequently, their intention to continue using the service [20].
3. Perceived Convenience: Refers to the ease with which users can access and use mobile banking services. Greater perceived convenience enhances user satisfaction and increases the likelihood of continued use [1], [9].

Hypotheses Development based on the theoretical framework, the following hypotheses are proposed:

C. Confirmation

According to Nguyen and Dao 2024), confirmation refers to user's perception of the alignment between their initial expectations regarding the use of a mobile banking service and the actual performance of that service[18]. When the performance of the mobile banking service meets or exceeds users' expectations, they feel satisfied and consider the service worthy of continued use. Bhattacherjee (2001) stated that if the application provides benefits to users and the service experience matches or surpasses their expected value, it leads to the perception of positive consistency, known as confirmation[23].

Yuan et al. (2016) indicated that when individuals' expectations align with the anticipated benefits or performance of a mobile banking service, they recognize the occurrence of confirmation[22]. Moreover, in the presence of confirmation, users believe that the application can meet their banking or financial transaction needs, deem it beneficial for solving their problems, and exhibit a pleasant user experience, which increases their satisfaction with the

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application [24]. Thus, when users' expectations are confirmed, their perceived usefulness and satisfaction with the application increase [21], [25].

Existing research has validated the impact of confirmation on users' perceived usefulness and satisfaction in the context of mobile banking [26], [22]. When the performance of mobile banking confirms or exceeds users' expectations, they experience satisfaction [15]. Furthermore, when users' expectations are confirmed, they find the system valuable and anticipate further positive experiences in future use [15], [27]. Therefore, this study proposes the following hypotheses:

H1: Confirmation has a direct, positive, and significant effect on perceived usefulness.

H2: Confirmation has a direct, positive, and significant effect on satisfaction.

D. Perceived Usefulness

According to Lee et al. (2023), perceived usefulness refers to users' perception of how much mobile banking enhances their performance in conducting banking transactions [15]. This means that if users feel that mobile banking helps them complete banking tasks more efficiently, effectively, and productively, they will perceive the service as useful. Perceived usefulness also pertains to the anticipated benefits from using mobile banking [15]. Previous studies have found that perceived usefulness has a strong positive impact on satisfaction. Nguyen et al. (2021) and Zhou et al. (2021) concluded that perceived usefulness is a critical functional value necessary for satisfaction in the context of mobile banking[17], [27]. If mobile banking is perceived as useful, customers are likely to feel satisfied. Consequently, perceived usefulness is significantly linked to satisfaction [15].

Perceived usefulness has also been found to have a positive influence on Mobile Banking Continuance Intention [15], [27]. Research conducted by Lee et al. (2023) highlights that perceived usefulness and user satisfaction within the mobile banking environment are key predictors of Mobile Banking Continuance Intention [15], [27]. This suggests that when mobile banking is perceived as beneficial by users, they feel satisfied and are more likely to continue using the service. Nguyen et al. (2021) also confirmed that when users believe that using a mobile banking platform improves their capabilities or helps them make payments easily and securely, they are more inclined to continue using mobile banking [27].

Thus, this study proposes the following hypotheses:

H3: Perceived usefulness has a direct, positive, and significant effect on satisfaction.

H4: Perceived usefulness has a direct, positive, and significant effect on Mobile Banking Continuance Intention.

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E. Satisfaction

According to Lee et al. (2023), satisfaction refers to the positive feelings or affection users experience after using mobile banking services, which arise when the performance of the service meets or exceeds their initial expectations [15]. This user satisfaction is a key indicator of the quality of their experience with mobile banking services. In this context, satisfaction refers to users' emotional response following their prior use of mobile banking [15]. Most previous studies (Lee et al., 2023; Nguyen et al., 2021; Rabaa'i & ALMaati, 2021) have confirmed the positive relationship between satisfaction and Mobile Banking Continuance Intention[15], [16], [27]. The findings from Lee et al.'s (2023) study suggest that user satisfaction in the mobile banking environment is an important predictor of Mobile Banking Continuance Intention[15]. Nguyen et al. (2021) also concluded that satisfaction has a straightforward yet significant impact: it strongly contributes to users' intention to continue using mobile banking services [27].

Therefore, this study proposes the following hypothesis:

H5: Satisfaction has a direct, positive, and significant effect on Mobile Banking Continuance Intention.

F. Trust

According to Nguyen and Dao (2024), trust in this study can be conceptualized as an individual's belief in the behavior and actions of others within an anticipated range [18]. Trust is believed to reduce perceived risk and uncertainty, making it a crucial element in determining customers' participation in using mobile banking applications [18]. The level of trust plays a significant role in online business relationships as it helps to reduce risk, concerns, and uncertainty [19], [27]. By minimizing uncertainty, fear, and perceived risk, trust encourages individuals to engage in e-commerce activities. Existing literature also highlights how trust influences Mobile Banking Continuance Intention [19], [27]. Based on this evidence, it is expected that trust contributes to Mobile Banking continuity intention, especially since mobile banking services tend to be more uncertain and vulnerable compared to human-based services, thus posing higher potential risks. For instance, users' personal information may be stolen, or an inadequately protected system could be easily attacked.

Therefore, when users trust mobile banking, they expect reliable services from high-quality providers, which motivates them to continue using the service [19], [27]. Hence, the following hypothesis is proposed:

H6: Trust has a direct, positive, and significant effect on Mobile Banking Continuance Intention.

G. Perceived Security

Perceived security, as defined by Lai and Liew (2021), refers to users' perception of the level of security provided by a technology-based platform or service [20]. This perception is shaped by

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the information users receive or their personal experiences with the platform. Perceived security typically encompasses elements such as reliability, privacy, authentication, data integrity, non-repudiation, and the confidentiality of data ensured by the technology or system in use.

Perceived security is widely recognized as a key dimension of institutional trust in research. Strong trust in the underlying infrastructure can lead to high levels of customer satisfaction. This view has been supported by previous studies highlighting the importance of perceived security in influencing users' trust in mobile banking [8], [19].

Therefore, the following hypothesis is proposed:

H7: Perceived security has a direct, positive, and significant effect on trust.

H. Perceived Convenience

Perceived convenience, according to Jebarajakirthy and Shankar (2021) and Leong et al. (2024), refers to users' perception of how easy and convenient a service is to use [1], [9]. This includes factors such as accessibility, intuitive usability, and time efficiency in completing transactions. Perceived convenience has a direct positive impact on Mobile Banking Continuance Intention. This suggests that users are more motivated to continue using a product or service if they feel comfortable and find the experience convenient. It indicates that users are more likely to keep using the product or service over a longer period when they perceive it as convenient [1], [9].

Therefore, the following hypothesis is proposed:

H8: Perceived convenience has a direct, positive, and significant effect on Mobile Banking Continuance Intention.

I. Mobile Banking Continuance Intention

Mobile Banking Continuance Intention refers to users' desire to continue using mobile banking services long-term after initial adoption [1], [9]. It is critical for the sustainability of mobile banking, as users with strong continuance intentions help banks retain customers. Key factors influencing this intention include user satisfaction, driven by ease of use, service quality, and issue resolution. Perceived benefits, such as transaction efficiency, and trust in security and privacy also play crucial roles. Users confident in service security are more likely to continue using it.

Habit and the perceived value of mobile banking, especially relative to cost, motivate users to keep using the service. Innovations, social influence, and system quality (reliability and functionality) further impact long-term use. Addressing these factors can help banks ensure ongoing user engagement and success in the digital banking landscape. Research model diagram the diagram in Figure 2 below illustrates the relationships between the variables as outlined in the hypotheses. This model extends the traditional ECM by incorporating trust, perceived security,

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and perceived convenience as additional factors influencing mobile banking continuance intention. The interactions between these variables offer a holistic understanding of the drivers behind users' decisions to continue using mobile banking services.

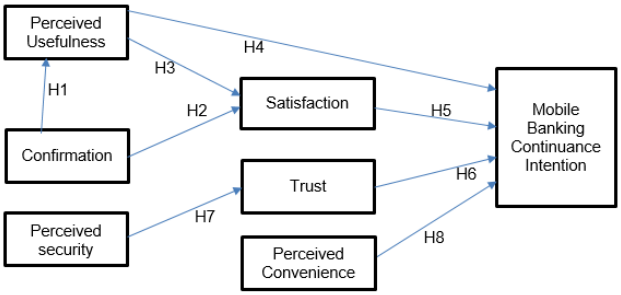

Fig 2. Research model diagram

II. RESEARCH METHOD

Research method this study employs a quantitative confirmatory research methodology to investigate the factors influencing mobile banking continuance intention. The research methodology is designed to ensure a systematic and detailed exploration of the research questions, including the design of the questionnaire, sampling methods, data collection, and statistical analysis. Research Procedure Figure 3 The overall research procedure follows the flow outlined beginning with the development of the research proposal, reviewing previous literature, formulating hypotheses, and designing the questionnaire. This is followed by data collection, data preparation, analysis using Structural Equation Modelling (SEM), and concluding with the interpretation of results.

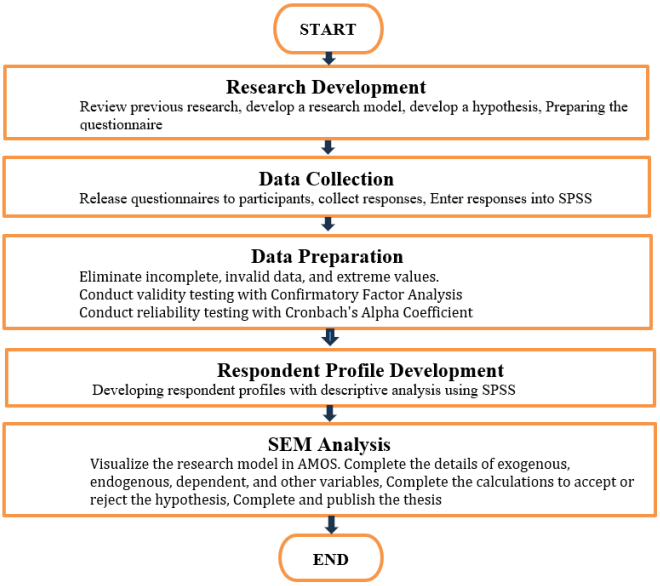

Fig 3. Research Procedure

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The questionnaire was developed to collect cross-sectional data from respondents who have experience with mobile banking in Indonesia. It consists of three sections introduction this section provides an overview of the study, including the objectives and a brief explanation of mobile banking to ensure respondents share a common understanding. Respondent Profile The second section contains demographic questions, such as age, gender, education level, and mobile banking usage experience. Only respondents who have been using mobile banking for over a year and have experience using its features, such as balance checking and transfers, are included in the study. Indicator Questions This section includes 18 questions designed to measure the constructs discussed in the research model (such as confirmation, perceived usefulness, satisfaction, trust, perceived security, and mobile banking continuance intention). Respondents rate each question on a 5-point Likert scale, from “strongly disagree” to “strongly agree.”

The questionnaire was translated into Indonesian to minimize translation errors. It was reviewed by experts to ensure clarity, and a pilot test was conducted with a small group of respondents to validate its usability. Sampling method This study employs a purposive sampling approach, targeting active mobile banking users in Indonesia who have been using the service for more than a year and are familiar with its various features. Respondents are selected based on their relevance to the study, ensuring that only those with significant experience using mobile banking participate.

Data will be collected through an online survey, using a Google Form distributed via email. The target sample size is 400 respondents, based on guidelines for a minimum sample size in studies using Structural Equation Modelling (SEM). Data will be collected using a structured online questionnaire. Respondents will complete the survey anonymously, and only relevant information (such as email addresses for follow-up) will be collected. The data will then be cleaned to remove incomplete responses or outliers before being prepared for statistical analysis. Once the data is collected, it will undergo a cleaning process to remove incomplete or invalid responses. SPSS will be used for data validation, ensuring the accuracy of the dataset [28]. Missing values and outliers will be identified and removed to ensure reliable results [29].

A descriptive analysis will be conducted to summarize the profile of respondents and their responses to each variable. This includes calculating the mean, standard deviation, skewness, and kurtosis for each indicator to assess normality. The construct validity will be tested using Confirmatory Factor Analysis (CFA). CFA will assess both convergent and discriminant validity to ensure that the indicators adequately measure their respective latent variables. Indicators that fail to meet validity criteria will be removed from the analysis. The construct reliability will be evaluated using Cronbach’s alpha. A threshold of 0.7 will be used to determine the reliability of each construct. Constructs with alpha values below this threshold will be excluded from further

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analysis [29]. SEM will be used to test the relationships between the variables in the research model. AMOS software will be employed to build and analyze the model, including both measurement and structural models[28].

Path coefficients will be estimated using Maximum Likelihood Estimation (MLE), which determines the strength and direction of relationships between variables. The following will be recorded unstandardized and standardized regression weights, covariances, correlations, and variances, total effects (direct and indirect) [30]. A p-value of less than 0.05 will indicate statistical significance for the path coefficients [29], [30]. Model fit will be assessed using multiple fit indices, including CMIN/DF A value ≤ 3 indicates good model fit, GFI A value ≥ 0.9 indicates good model fit, CFI A value ≥ 0.95 indicates very good model fit, RMSEA A value ≤ 0.08 indicates an acceptable fit, with values ≤ 0.05 considered very good [29], [31].

The final step will involve interpreting the results from the SEM analysis. Supported hypotheses will be discussed in relation to previous research, while unsupported hypotheses will be examined for possible reasons and implications for future research. The implications of the findings will be considered from both theoretical and practical perspectives, providing insights into how mobile banking providers can improve user retention and satisfaction [29].

III. RESULT AND DISCUSSION

This study analysed data collected through a survey regarding the use of mobile banking in Indonesia. The survey gathered responses from 505 participants, but after filtering incomplete responses and outliers, 424 valid responses remained. The preprocessing involved removing outliers using descriptive statistics in SPSS and conducting factor analysis to assess data validity and reliability. A validity test as in Table 2 was performed using Confirmatory Factor Analysis (CFA), and the results showed that all indicators had factor loadings above the minimum threshold of 0.4, indicating good convergence and discrimination [32].

Table 2. Validity test

	Component						
	1	2	3	4	5	6	7
TRU1	0.865						
TRU2	0.863						
TRU3	0.852						
…							
…							
…							
PU1							0.816
PU3							0.787
PU2							0.778

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Cronbach's Alpha coefficients were used to measure reliability as shown in Table 3, with all variables scoring above 0.7, indicating good reliability [33], [34].

Table 3. Reliability Test

No.	Variable	Value	Number of Indicators	Interpretation
1	Confirmation (CF)	0.855	3	Good
2	Perceived Usefulness (PU)	0.857	3	Good
3	Satisfaction (SAT)	0.913	4	Very good
4	Trust (TRU)	0.942	3	Very good
5	Perceived security (PS)	0.938	3	Very good
6	Perceived convenience (PC)	0.898	3	Good
7	Continuance Intention (CI)	0.956	3	Very good

The majority of respondents (82.3%) were between the ages of 18 and 29 as shown in Table 4 below in detail. With most being male (67.7%) as shown in table 5 below in detail.

Table 4. Respondent Profile Year of Birth

Age	Frequency	Percent	Valid Percent	Cumulative Percent
18	18	4.2	4.2	4.2
19	45	10.6	10.6	14.9
20	83	19.6	19.6	34.4
…	…	…	…	…
…	…	…	…	…
…	…	…	…	…
61	1	0.2	0.2	99.3
64	2	0.5	0.5	99.8
66	1	0.2	0.2	100
Total	424	100	100	

Table 5. Respondent Profile Gender

Gender	Frequency	Percent	Valid Percent	Cumulative Percent
Male	287	67.7	67.7	67.7
Famale	137	32.3	32.3	100
Total	424	100	100	

In terms of education, more than half of the respondents held a bachelor's degree (53.8%) as shown in detail in table 6 below.

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Table 6. Respondent Profile Education

Education	Frequency	Percent	Valid Percent	Cumulative Percent
Sarjana	228	53.8	53.8	53.8
Non Sarjana	196	46.2	46.2	100
Total	424	100	100	

Most respondents were users of BCA mobile banking (55.2%) as shown in detail in table 7, and had been using mobile banking services for over 2 years, as shown in table 8 .

Tabel 7. Respondent Profile of The Majority of Mobile Banking Users

User	Frequency	Percent	Valid Percent	Cumulative Percent
NonBCA	190	44.8	44.8	44.8
BCA	234	55.2	55.2	100
Total	424	100	100	

Table 8. Experience Using Mobile Banking

Experience	Frequency	Percent	Valid Percent	Cumulative Percent
1	62	14.6	14.6	14.6
2	128	30.2	30.2	44.8
3	78	18.4	18.4	63.2
…	…	…	…	…
…	…	…	…	…
…	…	…	…	…
16	1	0.2	0.2	99.3
17	1	0.2	0.2	99.5
20	2	0.5	0.5	100
Total	424	100	100	

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The theoretical model as shown in Figure 4 AMOS design below, tested using AMOS demonstrated in Table 9, that the hypotheses related to Perceived Usefulness, Trust, and Satisfaction were significantly associated with Mobile Banking Continuance Intention.

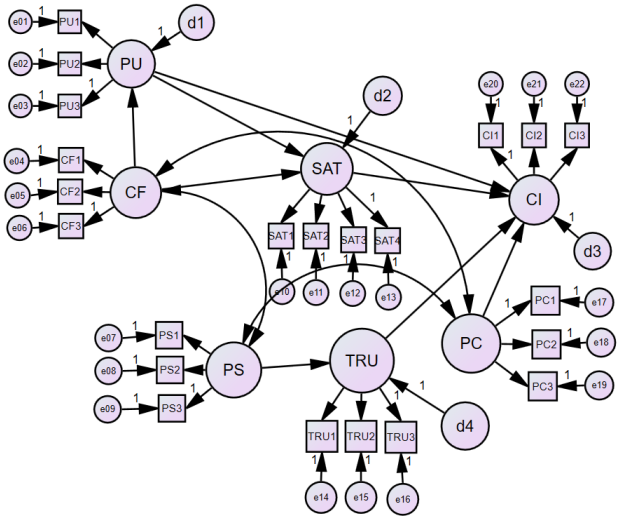

Fig 4. AMOS Design

Table 9. Estimated Values

No	Connection	Estimate	S.E.	C.R.	Status	Magnitude of Effect
H1	**CF --> PU**	0.576	0.055	10.566	***	L
H2	**CF --> SAT**	0.527	0.055	9.602	***	L
H3	**PU --> SAT**	0.289	0.052	5.563	***	M
H4	**PU --> CI**	0.396	0.068	5.807	***	M
H5	**SAT --> CI**	0.240	0.071	3.381	***	M
H6	**TRU --> CI**	0.211	0.042	5.012	***	M
H7	**PS --> TRU**	0.651	0.046	14.236	***	L
H8	**PC --> CI**	0.304	0.054	5.628	***	M

All paths in the model showed p-values less than 0.05, confirming the relationships among the variables in this study [35]. The fit statistic values indicated in Table 10 below, that the model was well-aligned with the data (CMIN/DF = 2.121, GFI = 0.920, RMSEA = 0.051)[28][35][31].

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Table 10. Fit Statistic

N	X2/df	GFI	AGFI	NFI	IFI	CFI	RMSEA
424	2.121	0.920	0.898	0.950	0.973	0.973	0.051
Evaluation criteria	< 3	> 0.9	< 0.9	> 0.9	> 0.9	> 0.9	> 0.08

The findings of this study are consistent with previous research as shown in Table 11 comparison of the accepted hypothesis and previous research, which has shown that Perceived Usefulness, Trust, and Satisfaction play critical roles in driving Mobile Banking Continuance Intention. Research by Lee et al. (2023) and Nguyen et al. (2021) supports these findings, where trust and user satisfaction are key predictors in the adoption of financial technologies [15], [27].

Table 11. Comparison of Accepted Hypothesis and Previous Research

No	Connection	Status	Reference
H1	PU <-- CF	***	[15], [27]
H2	SAT <-- CF	***	[15], [17], [27]
H3	SAT <-- PU	***	[15], [17], [27]
H4	CI <-- PU	***	[15], [27]
H5	CI <-- SAT	***	[15], [27]
H6	CI <-- TRU	***	[19], [27]
H7	TRU <-- PS	***	[8], [19]
H8	CI <-- PC	***	[1], [9], [20]

The results of hypothesis testing indicate that all proposed hypotheses were supported by the data with significance levels of $p < 0.05$. The relationships between Confirmation and Perceived Usefulness and between Satisfaction and Mobile Banking Continuance Intention showed strong effects on influencing users' intentions to continue using mobile banking services [32]. This study highlights the importance of trust and ease of use in enhancing users' intentions to continue using mobile banking services. Banks in Indonesia should focus on improving security and offering features tailored to users' needs to maintain customer loyalty. This study's sample is limited to mobile banking users in Indonesia, with a majority being young and active users. Future research could broaden the sample scope to include more diverse users and explore additional variables that may impact Mobile Banking Continuance Intention, such as customer service satisfaction.

IV. CONCLUSION

This study explored the factors influencing the intention to continue using mobile banking services, focusing on confirmation, perceived usefulness, perceived security, satisfaction, trust, and perceived convenience. Based on the analysis, several quantitative relationships were found.

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Confirmation significantly impacts perceived usefulness with an estimate of 0.576, showing a strong effect, and it also influences satisfaction with an estimate of 0.527, indicating a strong effect. Perceived usefulness affects satisfaction with an estimate of 0.289, showing a medium effect, and impacts continuance intention with an estimate of 0.396, indicating a medium effect. Satisfaction influences continuance intention with an estimate of 0.240, also a medium effect. Trust affects continuance intention with an estimate of 0.211, indicating a medium effect. Perceived security has a significant impact on trust with an estimate of 0.651, showing a strong effect, and perceived convenience influences continuance intention with an estimate of 0.304, indicating a medium effect. The results demonstrate that confirmation and perceived security are the strongest factors influencing user satisfaction and trust, which in turn drive continuance intention. For mobile banking service providers, enhancing security, usefulness, and trust is crucial for maintaining user satisfaction and encouraging the long-term use of mobile banking services.

Future research should examine additional variables, apply the model to different demographic groups, and explore how emerging technologies, such as artificial intelligence or blockchain, might impact mobile banking adoption. Longitudinal and experimental studies could provide further insights into the evolving relationships between these variables.

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