https://nawalaeducation.com/index.php/JE
Volume 2 Nomor 1, May 2025
e-ISSN : 3063-0959
DOI : https://doi.org/10.62872/fxfb0p83

Factors Influencing Users in Using Mobile Banking with the Extended Unified Technology Acceptance and Use of Technology Model

Ujang Joko Supandik[1] , Edwin Pranama[2] , Endang Setyati[3]
Teknologi Informasi, Institut Sains Teknologi Terpadu Surabaya[1,2,3]
e-mail: ujangradeon@gmail.com

INFO ARTIKEL

Accepted : March 29, 2025
Revised : April 15, 2025
Approved : May 31, 2025

Keywords:
Mobile Banking, UTAUT, Trust, Security, Mobile Banking Users

ABSTRAK

As one of the most innovative and new technologies, Mobile banking is a good example of the breakthrough of mobile technology in the banking sector, allowing customers to independently perform financial transactions (i.e. balance inquiries, fund transfers, bill payments) via mobile devices, smartphones, or Personal Digital Assistants (PDAs) at a time and place chosen by the customer. Customers in Indonesia have now widely used the internet for financial services. This study aims to analyze the factors that influence users in using mobile banking in Indonesia using the Extended Unified Theory of Acceptance and Use of Technology (UTAUT) model. This study identifies key variables such as security, trust, performance expectations, social influence and user intentions in adopting mobile banking in Indonesia. The method used in this research is to conduct a survey by distributing questionnaires using Google Form and distributed via WhatsApp, Instagram and word of mouth, at least 400 respondents to mobile banking users. The results of the analysis show that all factors have a significant influence on user intention to use mobile banking. In addition, the Trust and security variables play a very important role in adopting mobile banking. These findings are expected to provide solutions for mobile banking providers in.

INTRODUCTION

Mobile banking is a breakthrough in mobile technology in the banking sector that allows customers to independently conduct financial transactions (i.e. balance inquiries, fund transfers, bill payments) via mobile devices, smartphones, or Personal Digital Assistants (PDAs) at a time and place chosen by the customer. Customers in Indonesia are currently using the internet for financial services. Based on records from the Financial Services Authority (OJK), the number of mobile banking users (SMS banking, phone banking, mobile banking, and internet banking) increased by 270% from 13.6 million customers in 2012 to 50.4 million customers in 2016. Meanwhile, the frequency of transactions by Mobile Banking users increased by 169% from 150.8 million transactions in 2012 to

405.4 million transactions in 2016. With this data, every bank can provide and serve transactions with Digital Banking.

Although mobile banking offers many advantages, there are still many challenges that need to be resolved, such as issues of user trust, security, privacy and technology adoption by the community. These factors are considered for knowledge about mobile banking users influencing bank customers to use mobile banking services.

Literature Review

Mobile Banking

The Internet is a technology discovery that changes all aspects of life in a fast and dynamic pattern. Ease of access and speed of information systems bring about major changes to the social and economic aspects of society. Money transactions that originally used wallets have now developed where people can do it mobile. Through Mobile Banking, modern society can easily make money transactions. According to Mobile Banking is a service facility in providing easy access and speed in obtaining the latest information and financial transactions in real time.

Mobile Banking has been proven to provide improvements in terms of customer satisfaction and public interest in certain banks, based on research conducted by Mobile Banking services have a positive effect on BRI Bank, in Central Mamuju Regency. This can be seen from the amount of influence in ease of use, perception of benefits, and perception of security on user interest. The better the quality of Mobile Banking services at a bank, the higher the customer satisfaction.

Unified Technology Acceptance and Use of Technology

Unified Technology Acceptance and Use of Technology or often called UTAUT is a model created to analyze and understand the factors that influence a person's use of technology.

UTAUT has four key constructs, namely, Performance Expectancy, Effor Expectancy, Social Influence, and Facilitating condition that influence behavioral intentions to use technology or not to use technology. We

adapting these constructs and definitions from UTAUT to the context of consumer technology acceptance and use.

The use of UTAUT to assess Mobile Banking is described based on the role of each main factor in UTAUT. Performance Expectancy (PE) is a benchmark for using a technology that will provide benefits to consumers in carrying out a particular activity, Effort Expectancy (EE) is the level of ease associated with the use of technology by consumers, Social Influence (SI) is the extent to which a consumer perceives that other people who are important to him, for example, family and friends believe that they should use the technology, Facilitating Condition (FC) refers to consumer perceptions of the resources and support available to perform a behavior (Venkatesh et al., 2003).

Similar Research

Research related to factors that influence customer behavioral intentions to use Mobile Banking has previously been conducted in several studies. Research aims to gain

insight into the factors that influence customers' behavioral intentions to use Mobile Banking in Jordan. The researcher identified that a number of factors that influence the acceptance of Mobile Banking are performance expectancy, effort expectancy, hedonic motivation, price value and trust and trust. According to the statistical results presented by Alalwan et.al (2017), that respondents have ever reached the Acceptance level in predicting all endogenous factors: Behavioral Intention (65%), Adoption Behavior (32%) and Performance Expectancy (49%).

Furthermore, in the study , the study examines consumer behavior for Mobile Banking service delivery channels in the study categorizing Mobile Banking services into three phases, namely, static, interaction and transaction. This study identified that in the early stages (static stage), trust is a potential problem in influencing Mobile Banking adoption.

Next, at the interaction stage, consumers encounter two-way communication from service providers in handling their financial information during inquiries. Since consumers perform highly sensitive functions and activities at the transaction stage, the direct impact of security on adoption is a major issue. For all three stages of Mobile Banking services, initial trust may be formed by the combined effects of the uncertainty of this virtual medium and the security of the technology.

Research methods

Based on the previous research model that has been modified, to test the factors that influence the behavioral intention of customers to use Mobile Banking, so it was created model hypothesis with Unified Technology Acceptance and Use of Technology or UTAUT, as shown in Figure 1

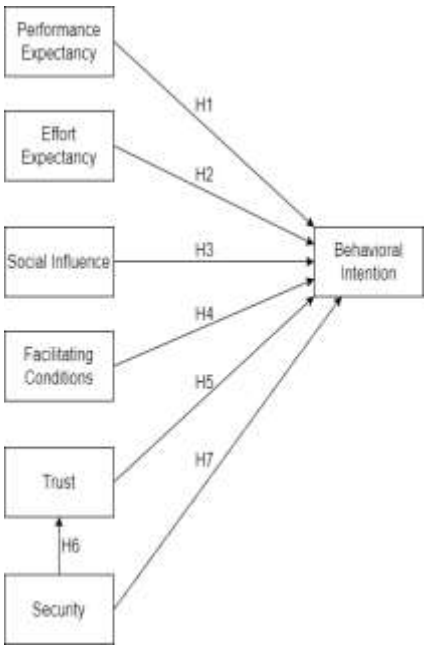

Figure 1 Research Hypothesis

Based on the image above, there are six external factors that are quite influential. Performance Expectancy (PE), Effort Expectancy (EE), Social Influence (SI),

Facilitating Conditions (FC), Trust (TR), Security (SC) are mentioned as factors that influence a person's desire to use Mobile Banking.

Hypothesis Formulation Table

Hypothesis			References
H1	***Performance Expectancy*** has a positive and significant effect on ***Behavioral Intention*** .	PE →BI	[1].,[2]
H2	***Effort Expectancy*** has a positive and significant effect on ***Behavioral Intention*** .	EE →BI	[3].,[4]
H3	***Social Influence*** has a positive and significant effect on ***Behavioral Intention*** .	SI →BI	[5]
H4	***Facilitating Conditions*** have a positive and significant effect on ***Behavioral Intention.***	FC →BI	[6]
H5	***Trust*** has a positive and significant effect on ***Behavioral Intention*** .	TR →BI	[7]

[1] (Boonsiritomachai, W., & Pitchayadejanant, K. (2019)
[2] Alalwan, Dwivedi, and Rana, 'Factors Influencing Adoption of Mobile Banking by Jordanian Bank Customers: Extending UTAUT2 with Trust'.
[3] Alalwan, Dwivedi, and Rana, 'Factors Influencing Adoption of Mobile Banking by Jordanian Bank Customers: Extending UTAUT2 with Trust'.
[4] (Boonsiritomachai, W., & Pitchayadejanant, K. (2019).
[5] Alalwan, Dwivedi, and Rana, 'Factors Influencing Adoption of Mobile Banking by Jordanian Bank Customers: Extending UTAUT2 with Trust'.
[6] (Boonsiritomachai, W., & Pitchayadejanant, K. (2019)
[7] Tareq Obaid and Ziad Aldammagh, 'Predicting Mobile Banking Adoption:An Integration of TAM and TPB With Trust and Perceived Risk', *SSRN Electronic Journal*, 2021, doi:10.2139/ssrn.3761669.

H6	***Security*** has a positive and significant effect on ***Trust*** .	SC →TR	[8].,[9]

In order to prove the hypothesis, a questionnaire was prepared containing questions that support the supporting variables of the hypothesis. The questionnaire was distributed to all respondents of Mobile Banking users, a minimum sample size of 400 respondents was required , this study used a purposive sampling method to distribute the survey to target respondents using Google Forms.

This study applied component factor analysis (CFA) to assess the validity of construct indicators, as written by Strau b . In addition, the internal consistency of the measurement was examined using the Cronbach α coefficient, and the interpretation of the values was determined based on the criteria of George & Mallery (2003). Descriptive statistics were then conducted to ensure that the collected data were ready for analysis. indicators that have factor loading (correlation between indicators and constructs using Structural Equation Modeling (SEM).

Results and Discussion

Based on data collection Data collection took place from January 2023 to August 2023, from the target respondents required were 400 data, and the data that was successfully collected was 414 data. After eliminating invalid data and outliers, 404 usable data were obtained.

The cleaned data was then converted into categorical and processed into SPSS Statistics (version 23). After the data was converted and entered into SPSS, the next step was to conduct a factor analysis test to test the validity of the data by looking at discriminants and convergents.

Construct validity testing was conducted using factor analysis with a focus on discrimination and convergence of the nine latent variables in the model. Table 3 will display the final results for each latent) with a minimum value of 0.4 and an eigenvalue of one.

Table 3. Validity Test Calculation Results

	1	2	3	4	5	6	7
FC2	.831						
FC3	.781						
FC1	.780						
FC4	.655						

[8] Shareef and others, 'Consumer Adoption of Mobile Banking Services: An Empirical Examination of Factors According to Adoption Stages'.

[9] Shareef and others, 'Consumer Adoption of Mobile Banking Services: An Empirical Examination of Factors According to Adoption Stages'; Obaid and Aldammagh, 'Predicting Mobile Banking Adoption:An Integration of TAM and TPB With Trust and Perceived Risk'.

EE2		.865					
EE3		.850					
EE1		.818					
SI2			.905				
SI1			.885				
SI3			.824				
BI1				.847			
BI2				.827			
BI3				.784			
PE2					.831		
PE1					.804		
PE3					.795		
SC1						.837	
SC3						.814	
SC2						.733	
TR2							.869
TR1							.797
TR3							.788

The results of the factor analysis show that each group of indicators is able to position itself according to expectations , namely achieving discrimination and convergence. In indicators FC 4 and TR1, the average value of the extracted variance (Average Variance Extracted) is less than 0, but does not meet the discriminant validity. Therefore, one of the indicators, namely FC and TR, was deleted. After the deletion of the indicator, a re-validity test was carried out. With the results as in table 4.

Table 5.2 Results of the Second Literacy Factor Analysis

	1	2	3	4	5	6	7
SI2	.907						

SI1	.885						
SI3	.829						
EE2		.860					
EE3		.847					
EE1		.814					
FC2			.843				
FC1			.814				
FC3			.796				
BI1				.842			
BI2				.824			
BI3				.788			
PE2					.830		
PE3					.800		
PE1					.790		
SC1						.842	
SC3						.819	
SC2						.741	
TR3							.891
TR2							.879

After retesting, the results of the factor analysis showed that each group of indicators was able to position themselves according to expectations, namely achieving discrimination and convergence. This shows that these indicators have good ability in measuring the latent variables they represent. Construct validity is reliable because each indicator has been tested in terms of its relationship with its latent variables. Achieving discrimination shows that each indicator is able to distinguish itself from other indicators in different groups. Meanwhile, convergence indicates that indicators in the same group have strong alignment and interrelationships. Both of these factors are important to ensure that the data collected provides an accurate picture of the variables being studied.

After the construct validity is tested, the next step is to conduct a reliability test to determine the extent to which the measurement instrument can produce consistent results when used repeatedly. With a reliability test, researchers can ensure that the indicators that have been tested for validity also have good consistency in measurement.

Each group of indicators is analyzed using coefficients

Cronbach Alpha to measure the level of consistency of respondents' answers. The Cronbach Alpha value that is considered acceptable is a minimum of 0.7, with a

maximum value reaching 0.9. The results of the analysis and interpretation can be seen in table 5 below.

No	Latent Variables	Mark	Number of Indicators	Interpretation
1.	Performance Expectancy (PE)	.881	4	Bagus
2.	Effort Expectancy (EE)	.917	3	Sangat Bagus
3.	Sosial Influence (SI)	.904	3	Sangat Bagus
4.	Facilitating Conditions (FC)	.883	3	Sangat Bagus
5.	Trust (TR)	.808	2	Bagus
6.	Security (SC)	.862	3	Bagus
7.	Behavioral Intention (BI)	.907	3	Very good

Based on the results of the reliability test above, it can be concluded that overall the latent variables have a good interpretation. Reliability values ranging from 0.7 to 0.8 are considered "Acceptable," 0.8 to 0.9 are considered "Good," and more than 0.9 are considered "Very Good." The factor with the highest value is Effort Expectancy with a score of 0.917, while the lowest value is in Trust with a score of 0.808.

At the reliability test stage using Cronbach Alpha, no factors were eliminated because all alpha values generated were still within the acceptable and adequate range. Therefore, the number of latent variables at this stage remains unchanged.

After the indicators have passed the factor analysis and reliability test stages, the theoretical model is analyzed using AMOS software and calculated using SEM analysis. The theoretical model is described in AMOS and processed to produce calculations.

This study describes the relationship between various types of variables in the theoretical framework of using UTAUT. Exogenous variables such as Performance Expectancy (PE), Social Influence (SI), Facilitating Conditions (FC) and

Security (SC) is a driving factor in the transition to UTAUT. While Trust (TR) and Behavioral Intention (BI) act as endogenous variables influenced by the five exogenous factors, as well as dependent variables.

Variable Grouping Table

Latent	Variables	
Exogenous	Performance Expectancy	PE
	Effort Expectancy	EE
	Social Influence	SI
	Facilitating Conditions	FC
	Security	SC

Endogen	Trust	TR
	Behavioral Intention	BI

The variables and indicators in this research model are described according to the theoretical model, with variable naming consistent with data labeling. Covariance paths are represented by two-way arrows connecting all exogenous variables. Hypothesized relationships are indicated by one-way arrows connecting the various variables according to the model.

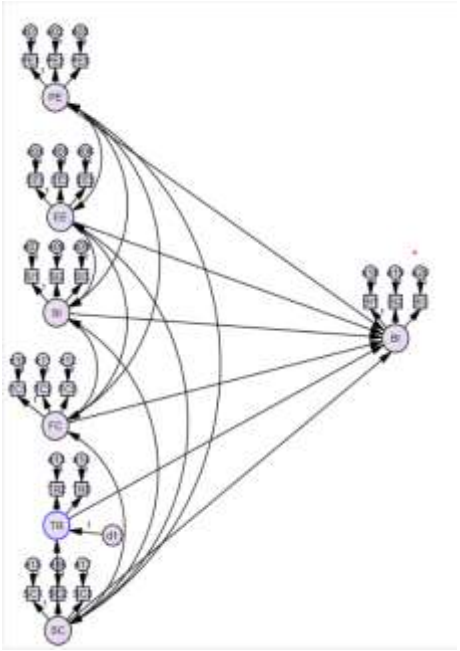

Figure 2 AMOS Design

Figure 2 depicts a research model showing the relationships between various variables in the context of the transition to UTAUT.

Variables such as Performance Expectancy (PE), Social Influence (SI), Facilitating Conditions (FC), Effort Expectancy (EE) Security (SC), Trust (TR) and Behavioral Intention (BI)

interact with each other through the paths indicated by the arrows. The one-way arrows indicate the hypothesized causal relationships between the variables. This diagram helps in understanding how various factors can influence a user's intention to switch to UTAUT.

Figure 2 above is a representation of AMOS which is depicted based on the theoretical model that has been proposed previously. The results of the analysis using AMOS show that there is one variable that does not significantly affect switching intention . While the other five variables, namely showing significant values affecting switching intention with a magnitude of effect "Medium" with the following details.

Table 7 Estimated Values

No	Connection	Estimate	SE	CR	Status	Magnitude of Effect
H1	PE-->BI	.272	.054	5.004	***	M

H2	EE-->BI	.116	.043	2.712	.007	M
H3	SI-->BI	.139	.030	4.710	***	M
H4	FC-->BI	.240	.047	5.146	***	M
H5	TR-->BI	.146	.040	3.599	***	M
H6	SC-->TR	.455	.066	6.928	***	M
H7	SC-->BI	.257	.053	4,822	***	M

The results of the analysis with AMOS as Figure 3 Table 8 Results of fit statistics

Next, to measure the extent to which the collected data matches the proposed theoretical model. Based on the results listed in the table below, it can be concluded that the theoretical model shows a fairly good fit, although there is still room for improvement, especially in the fit statistic value for AGFI. However, overall, the value is still within acceptable limits, according to the guidelines provided.

Table 5.10 Fit Statistic Table

N	X2/df	GFI	AGFI	NFI	IFI	CFI	RMSEA
424	5,461	.825	.763	.856	.879	.879	.105
Kriteria evaluasi	<3	>0.9	<0.9	>0.9	>0.9	>0.9	>0.08

CONCLUSION

This study provides theoretical contributions through measuring the variables that influence the interest of mobile banking users to switch to UTAUT. The analysis shows that 7 of the seven main variables have a significant influence, with Effort Expectancy (EE) 0.917 followed by Behavioral Intention (BI) 0.907, Social Influence (SI) 0.904, Facilitating Conditions (FC) 0.883, Performance Expectancy (PE) 0.881, Security (SC) 0.862, and Trust (TR) 0.808. Affirming the role of performance expectancy, Facilitating conditions, trust, user security. The evaluation of the model fit shows positive results with a Chi-square/degree of freedom (X2/df) value of 5.461, Goodness of Fit Index (GFI) 0.825, and Adjusted Goodness of Fit Index (AGFI) 0.763. In addition, comparative fit indices such as Normed Fit Index (NFI) (0.856), Incremental Fit Index (IFI) (0.879) and Comparative Fit Index (CFI) (0.875) all meet the criteria > 0.9, indicating a very good model. With a Root Mean Square Error of Approximation (RMSEA) value of 0.105, this model has a moderate level of approximation error. The relationship between variables is supported by various previous studies, strengthening the validity of this study and providing new insights into the literature related to factors that influence the transition to

UTAUT among mobile banking users. By understanding the relationship between these variables, UTAUT service providers can develop more effective strategies to encourage increased use of UTAUT mobile banking.

REFERENCE

Alalwan, Ali Abdallah, Yogesh K. Dwivedi, and Nripendra P. Rana, 'Factors Influencing Adoption of Mobile Banking by Jordanian Bank Customers: Extending UTAUT2 with Trust', *International Journal of Information Management*, 37.3 (2017), pp. 99–110, doi:10.1016/j.ijinfomgt.2017.01.002

Baabdullah, Abdullah M., and others, 'Consumer Use of Mobile Banking (M-Banking) in Saudi Arabia: Towards an Integrated Model', *International Journal of Information Management*, 44.August 2018 (2019), pp. 38–52, doi:10.1016/j.ijinfomgt.2018.09.002

'Boonsiritomachai, W., & Pitchayadejanant, K. (2019). Determinants Affecting Mobile Banking Adoption by Generation Y Based on the UTAUT Model Modified by the TAM Concept.Pdf'

Maulana, Rian, Iskandar Iskandar, and Masrura Mailany, 'Pengaruh Penggunaan Mobile Banking Terhadap Minat Nasabah Dalam Bertransaksi Menggunakan Technology Acceptance Model', *Cyberspace: Jurnal Pendidikan Teknologi Informasi*, 2.2 (2019), p. 146, doi:10.22373/cj.v2i2.4161

Merhi, Mohamed, Kate Hone, and Ali Tarhini, 'A Cross-Cultural Study of the Intention to Use Mobile Banking between Lebanese and British Consumers: Extending UTAUT2 with Security, Privacy and Trust', *Technology in Society*, 59.January (2019), p. 101151, doi:10.1016/j.techsoc.2019.101151

Nursiah, Muh. Ferils, and Jamaludin Kamarudin, 'Analisis Minat Menggunakan Mobile Banking', *AKUNTABEL: Jurnal Akuntansi Dan Keuangan*, 19.1 (2022), pp. 91–100, doi:10.29264/jakt.v19i1.10711

Obaid, Tareq, and Ziad Aldammagh, 'Predicting Mobile Banking Adoption:An Integration of TAM and TPB With Trust and Perceived Risk', *SSRN Electronic Journal*, 2021, doi:10.2139/ssrn.3761669

Shareef, Mahmud Akhter, and others, 'Consumer Adoption of Mobile Banking Services: An Empirical Examination of Factors According to Adoption Stages', *Journal of Retailing and Consumer Services*, 43.December 2017 (2018), pp. 54–67,

doi:10.1016/j.jretconser.2018.03.003