



# Determinants of retired customers' interest in using M-Banking at Bank Mandiri taspen with UTAUT

Adelia Tasya Nabila<sup>1</sup>, Trianggoro Wiradinata<sup>2,3</sup>, Metta Padmalia<sup>3</sup>  
<sup>1,2,3</sup>Management, Universitas Ciputra, Indonesia

## ARTICLE INFO

### Article history:

Received Feb 13, 2026  
Revised Mar 14, 2026  
Accepted Apr 18, 2026

### Keywords:

Mobile banking;  
UTAUT;  
Trust;  
Retired customers;  
Technology adoption.

## ABSTRACT

This study investigates the determinants of retired customers' intention to use Movin mobile banking at Bank Mandiri Taspen by applying the Unified Theory of Acceptance and Use of Technology (UTAUT) and examining the role of trust as a mediating variable. Using survey data from 100 retired users and analyzing the data with PLS-SEM, the study finds that performance expectancy and facilitating conditions are the primary drivers of usage intention. In contrast, effort expectancy and social influence do not significantly influence intention. Interestingly, trust does not directly affect intention and does not mediate the relationship between UTAUT constructs and intention to use. These findings suggest that, among retirees, adoption decisions are shaped more by tangible benefits and practical support than by psychological trust mechanisms. The study contributes to the refinement of UTAUT in elderly contexts and offers strategic recommendations for designing user-centered digital banking services tailored to retirees.

*This is an open access article under the [CC BY-NC](https://creativecommons.org/licenses/by-nc/4.0/) license.*



## Corresponding Author:

Trianggoro Wiradinata  
Management,  
Universitas Ciputra,  
CitraLand CBD Boulevard, Jl. Waterpark Boulevard, Made, Kec. Sambikerep, Surabaya, Jawa Timur 60219, Indonesia  
Email: [twiradinata@ciputra.ac.id](mailto:twiradinata@ciputra.ac.id)

## 1. INTRODUCTION

Digital transformation has reshaped how banks serve customers, especially by expanding app-based services such as mobile banking (m-banking). This development is driven by increased internet access and smartphone usage, resulting in a shift in financial transactions from face-to-face services to digital channels. In the context of financial inclusion, m-banking is considered capable of increasing service efficiency and providing easier access, including for segments with limited mobility, such as retirees.

However, the adoption of digital banking services among retirees does not always keep pace with technological developments. The characteristics of older adults generally overlap with barriers to digital literacy, limited comfort with devices, and concerns about security and the risk of transaction errors. Several studies on technology among older adults emphasize that the decision to use technology is not simply a matter of "availability" but is influenced by perceived tangible benefits, user experience, environmental support, and a sense of security when interacting with the system (Czaja

et al., 2018; Guner & Acarturk, 2020). Therefore, understanding the determinants of interest in using m-banking among retirees is crucial to ensure that digital banking transformation does not leave behind user groups who actually need convenient services.

This research focuses on the Movin service at Bank Mandiri Taspen, which primarily serves retired customers. Movin was developed to facilitate practical transactions without requiring branch visits. However, low active usage among retired customers indicates an adoption gap, which may be influenced by perceived benefits, ease of use, environmental influences, and support facilities and technical assistance. Furthermore, in digital services based on financial transactions, trust is also a relevant factor because users must submit personal data and conduct financial activities through the app, which often raises concerns about risks and security.

This study adopts the Unified Theory of Acceptance and Use of Technology (UTAUT) to account for technology adoption behavior. The UTAUT framework specifies four core predictors of intention and adoption: performance expectancy, effort expectancy, social influence, and facilitating conditions (Venkatesh et al., 2016). In general, performance expectancy reflects the belief that technology provides benefits and increases the effectiveness of user activities, while effort expectancy relates to perceived ease of use. Social influence reflects encouragement/support from significant others around the user, while facilitating conditions emphasize the availability of resources, infrastructure, support, and device compatibility that facilitate service use (Venkatesh et al., 2016). In the elderly population, literature suggests that perceived benefits, along with the support of facilities and technical assistance, are often more important than perceived ease of use, as barriers to adoption arise not only from the application interface but also from anxiety, old habits, and limited digital skills (Czaja et al., 2018; Guner & Acarturk, 2020).

On the other hand, the adoption of digital banking services is also related to trust. In m-banking, trust relates to users' belief that the service is secure, reliable, and capable of protecting data and transactions. Several studies have identified trust as a factor that strengthens usage intentions and serves as a mechanism explaining how user perceptions of digital services translate into usage intentions (Alalwan et al., 2017a; Namahoot, 2022). However, empirical findings on the role of trust are not always consistent across contexts, particularly among user groups with a strong preference for conventional services or those still in the early stages of technology adoption. This situation opens up research opportunities to examine whether trust plays a direct role in usage intentions and whether trust mediates the influence of UTAUT constructs on usage intentions in the retiree segment.

Based on the description, this study aims to analyze the factors that influence the interest in using Movin m-banking among retired customers of Bank Mandiri Taspen KC Tanjungpinang using the UTAUT construct (performance expectations, business expectations, social influence, and supporting conditions), and assess the role of trust as a variable that has the potential to influence interest in use and act as a mediator. Thus, this study is expected to provide practical contributions in the form of strategic input to increase the adoption of m-banking in the retired segment by sharpening service benefits and strengthening support for use, while enriching the application of UTAUT in the context of elderly users in digital banking services.

The study examines the following hypotheses: H1 performance expectancy positively influences trust; H2 effort expectancy positively influences trust; H3 social influence positively influences trust; H4 facilitating conditions positively influence trust; H5 trust positively influences usage intention; H6 performance expectancy positively influences usage intention; H7 effort expectancy positively influences usage intention; H8 social influence positively influences usage intention; H9 facilitating conditions positively influence usage intention. The study also evaluates the mediating role of trust: H10 trust mediates the relationship between performance expectancy and usage intention; H11

trust mediates the relationship between effort expectancy and usage intention; H12 trust mediates the relationship between social influence and usage intention; and H13 trust mediates the relationship between facilitating conditions and usage intention.

## 2. RESEARCH METHOD

### 2.1 Type and design of research

This study adopts a quantitative, survey-based design to assess how the variables in the proposed research model shape retired customers' intention to use mobile banking. Data were collected over a single period (cross-sectional) through the distribution of structured questionnaires. A cross-sectional survey design was selected because the objective of this study was to examine perception-based determinants of behavioral intention at a specific point in time. Given that intention formation in technology adoption research is commonly examined using perceptual constructs and structural modeling, PLS-SEM was deemed appropriate due to its suitability for predictive models and complex mediation structures, particularly with relatively small sample sizes.

### 2.2 Population and sample

The study population comprised retired customers of the focal institution. A purposive sampling approach was applied by recruiting participants who met predefined eligibility criteria aligned with the study objectives. These criteria were: (1) active retired customers, (2) aged 60 years or older, and (3) having used, or currently using, mobile banking services.

### 2.3 Data collection techniques and instruments

Primary data were gathered through a structured, closed-ended questionnaire using a five-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree). The instrument was administered via both face-to-face distribution and online delivery.

### 2.4 Data analysis techniques

The analysis was carried out in two stages, namely descriptive analysis and inferential analysis. Descriptive analysis was employed to portray respondents' characteristics and to summarize response patterns for each indicator, while limiting the interpretation to the data observed and not extending conclusions beyond the sample (Sugiyono, 2005). Inferential analysis was conducted using PLS-SEM in SmartPLS to assess both the measurement (outer) and structural (inner) models. The evaluation proceeded through the following steps.

#### a. Evaluation of the measurement model (outer model)

The outer model is used to assess the extent to which indicators represent the construct being measured (Wijaya, 2019). Testing includes: Convergent validity through outer loading and AVE values. Construct reliability through composite reliability values and Cronbach's alpha. Discriminant validity was assessed using the HTMT criterion, as it is more sensitive in identifying potential issues in construct distinctiveness than the cross-loading method (Hair et al., 2019; Henseler et al., 2015).

#### b. Evaluation of the structural model (inner model)

The inner model is used to assess the relationships between constructs and test hypotheses. The evaluation stage includes: Multicollinearity test with inner VIF to ensure there is no excessive correlation between predictors; VIF is used to maintain the stability of path coefficient estimates (Hair et al., 2021). The coefficient of determination ( $R^2$ ) to see the clear power of the endogenous construct. Test the significance of the path coefficient

through the bootstrapping procedure by looking at the t-statistics/p-values for direct and indirect (mediation) influences (Hair et al., 2019).

Effect size ( $f^2$ ) is commonly applied to evaluate how strongly a predictor contributes to the explained variance in a model. As a rule of thumb, values around 0.02 indicate a small contribution, about 0.15 reflect a medium contribution, and approximately 0.35 suggest a large contribution (Lachowicz et al., 2018). In mediation settings, this assessment can be strengthened by complementing  $f^2$  with a dedicated mediation effect size procedure, as recommended in established PLS-SEM guidelines (Hair et al., 2021).

### 3. RESULTS AND DISCUSSIONS

#### 3.1 Respondent Characteristics

The study involved 100 retired Movin mobile banking customers. Sixty-four percent of respondents were male and 36 percent female. The largest age group was 60 to 65 years old (58 percent), followed by 65 to 70 years old (32 percent), and 10 percent over 70 years old (10 percent). The respondent profile reflects the context of older users who tend to be cautious about digital financial services. In this segment, assessing transaction benefits and the availability of user support more often underpins decisions than social incentives (Czaja et al., 2018).

#### 3.2 Evaluation of Measurement Model

The measurement model was evaluated prior to examining the structural relationships among constructs. Convergent validity was verified through the Average Variance Extracted (AVE), using a threshold of greater than 0.50. Internal consistency reliability was examined using Cronbach's alpha and composite reliability, with values above 0.70 indicating acceptable reliability (Hair et al., 2019; Wijaya, 2019). Discriminant validity was examined using HTMT because it is more sensitive in detecting overlap between constructs (Henseler et al., 2015). All constructs met the referenced criteria, allowing the analysis to proceed to the structural model.

Table 1. Validity and Reliability Test Results

Variables	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)	Information
Performance Expectation (X1)	0.888	0.894	0.915	0.643	Meets validity and reliability criteria
Business Expectation (X2)	0.942	0.944	0.955	0.810	Meets validity and reliability criteria
Social Influence (X3)	0.881	0.984	0.902	0.606	Meets validity and reliability criteria
Supporting Conditions (X4)	0.893	0.907	0.917	0.651	Meets validity and reliability criteria
Trust (Z)	0.937	0.942	0.951	0.764	Meets validity and reliability criteria
Interest in Use (Y)	0.932	0.946	0.946	0.746	Meets validity and reliability criteria

Table 2. HTMT Test (Heterotrait-Monotrait Ratio)

Variables	Performance Expectation (X1)	Business Expectation (X2)	Social Influence (X3)	Supporting Conditions (X4)	Trust (Z)	Interest in Use (Y)
Performance Expectation (X1)						
Business Expectation (X2)	0.789					
Social Influence (X3)	0.335	0.332				

Supporting Conditions (X4)	0.817	0.878	0.348		
Trust (Z)	0.838	0.803	0.331	0.885	
Interest in Use (Y)	0.717	0.579	0.232	0.692	0.713

All HTMT values were below 0.90, so the construct separation was considered adequate (Henseler et al., 2015; Hair et al., 2019).

### 3.3 Structural Model Evaluation

The model's explanatory capacity was evaluated using the coefficient of determination  $R^2$ . An  $R^2$  of 0.508 for Trust indicates that Performance Expectancy, Effort Expectancy, Social Influence, and Supporting Conditions jointly account for 50.8 percent of the variance in Trust. The  $R^2$  value of Intention to Use of 0.750 indicates that 75 percent of the variation in Intention to Use can be explained by the exogenous constructs and mediating constructs in the model. Predictive relevance was assessed using the  $Q^2$  of Intention to Use of 0.877, which is above zero. Multicollinearity tests showed that the inner VIF values ranged from 1.201 to 3.917, thus no indication of collinearity was found to interfere with the path estimation (Hair et al., 2019; Hair et al., 2021).

### 3.4 Testing the Direct Effect Hypothesis

Testing was conducted using bootstrapping at the 5 percent level (Hair et al., 2019). A summary of the results is presented in Table 3.

Table 3. Summary of Direct Hypothesis Test Results

Hypothesis	Track	$\beta$	p-value	Decision
H1	Performance Expectations → Trust	0.433	0.001	Accepted
H2	Business Expectations → Trust	-0.069	0.667	Rejected
H3	Social Influence → Trust	-0.015	0.845	Rejected
H4	Supporting Conditions → Trust	0.394	0.013	Accepted
H5	Trust → Usage Interest	0.153	> 0.05	Rejected
H6	Performance Expectations → Usage Interest	0.234	< 0.05	Accepted
H7	Business Expectations → Interest in Use	0.172	> 0.05	Rejected
H8	Social Influence → Usage Interest	0.026	> 0.05	Rejected
H9	Supporting Conditions → Interest in Use	0.397	< 0.05	Accepted

Key findings indicate that Performance Expectancy is associated with increased Trust and Intention to Use. This pattern aligns with UTAUT, as perceived usefulness of technology is related to acceptance and intention to use (Venkatesh et al., 2016; Sari & Cristiana, 2021). Supporting Conditions are also consistently related to Trust and Intention to Use. Among retired users, device support, network access, technical assistance, and mentoring contribute to a sense of security and comfort of use, consistent with the literature on digital banking services and technology adoption among groups with limited digital literacy (Alalwan et al., 2017; Dwivedi et al., 2019; Marciano et al., 2022). Conversely, Effort Expectancy and Social Influence did not show a significant relationship with Trust or Intention to Use. These results support the view that interface ease and normative incentives are not the primary drivers for older users, as they are more concerned with the risk of errors, security, and certainty of transactions (Czaja et al., 2018; Guner & Acarturk, 2020). Trust was also not significantly related to Intention to Use, which suggests the role of conventional service habits and psychological barriers that persist even after trust in banking institutions has been established (Czaja et al., 2018).

### 3.5 Trust Mediation Test

The indirect effect test showed that all mediation paths through Trust were not supported at the 5 percent level. A summary of the results is presented in Table 4.

Table 4. Hypothesis Test of Mediation Effect

Mediation Path	Original sample (O)	Sample mean (M)	STDEV	t statistics	p values	Decision
Performance Expectation → Trust → Intention to Use	0.066	0.062	0.046	1,441	0.150	Not supported
Business Expectation → Trust → Interest in Use	-0.011	-0.010	0.030	0.354	0.723	Not supported
Supporting Conditions → Trust → Interest in Use	0.060	0.060	0.052	1,173	0.241	Not supported
Social Influence → Trust → Usage Interest	-0.002	0.000	0.013	0.169	0.866	Not supported

Based on the table, the absence of mediation through Trust indicates that changes in Intention to Use among retired respondents are more closely linked to practical benefits and readiness to support use than to the psychological pathway through Trust. Variations in trust mediation findings in other studies may be related to differences in service context, user characteristics, and usage experience (Namahoot, 2022; Saparudin et al., 2020; Venkatesh et al., 2016).

### 3.6 Synthesis of Discussion

The results of the study indicate that the intention to use Movin mobile banking among retired customers is more closely related to the dimensions of benefits and user support. Performance Expectations emerged as a strong explanatory factor, meaning respondents tended to consider the application's tangible usefulness in daily financial activities, such as transaction efficiency and the ease of completing routine needs without visiting a branch office. Supporting Conditions also emerged as a key factor, pointing to the role of device access, network stability, and the availability of technical support in shaping user comfort. In the elderly group, a smooth and minimally disruptive transaction experience became a more dominant basis for assessment than normative considerations or simply the perception of interface ease (Czaja et al., 2018).

The practical implications of these findings require adjusting service strategies to be more user-experience oriented. Feature enhancements should be directed toward clarity of transaction benefits, for example, by displaying easy-to-read transaction receipts, providing clear transaction status information, and streamlining routine transaction flows. Regarding security, transaction confirmation designs should maintain a balance between protection and readability, to avoid increasing the cognitive burden on retired users. Operational support should also be positioned as part of the core service through point-of-service assistance, responsive help channels, and concise guides relevant to the user's situation. In this context, persuasion strategies that rely solely on social influence tend to be inadequate, as usage decisions are more determined by a sense of security and the availability of assistance when users encounter problems (Alalwan et al., 2017; Czaja et al., 2018).

### 3.7 Theoretical Implications

The present findings provide a theoretical refinement to digital banking adoption research by showing that trust does not exert a direct influence on usage intention and does not transmit the effects of UTAUT antecedents through mediation in the retiree segment. This pattern challenges the common assumption that trust consistently functions as a central psychological pathway in mobile banking adoption. In the context of retired customers who maintain long-term institutional relationships with the bank, trust appears to operate as a background condition rather than a decisive determinant of intention. In high institutional-trust environments, adoption decisions may therefore be shaped more strongly by utilitarian evaluations than by psychological assurance mechanisms.

The findings also suggest that the explanatory configuration of UTAUT constructs may shift in elderly populations. Effort expectancy and social influence, which are

frequently reported as meaningful predictors in younger or mixed-age samples, do not meaningfully shape intention among retirees in this context. Instead, the dominance of performance expectancy and facilitating conditions implies that later-life adoption is driven primarily by tangible transaction benefits and the availability of support infrastructure, such as device readiness, assistance, and problem-resolution channels. Conceptually, this supports a contextual refinement of UTAUT in which perceived utility and enabling resources carry greater explanatory weight than usability perceptions or normative pressure in older-user settings.

Taken together, these insights position the retiree segment as a boundary condition for trust-augmented UTAUT models in digital banking. The results imply that when institutional credibility is already assumed, the theoretical contribution of trust as a differentiating mechanism diminishes, and the adoption process becomes more strongly anchored in practical rationality. Future research may strengthen this refinement by explicitly incorporating constructs that are theoretically aligned with elderly adoption dynamics, such as habit, perceived risk, technology anxiety, and digital literacy, and by testing whether the proposed boundary condition holds across banks, regions, and varying levels of prior digital experience.

#### 4. CONCLUSION

This study examines the intention to use Movin mobile banking among retired customers using the UTAUT framework and includes Trust as a mediating variable. The test results indicate that Performance Expectations and Supporting Conditions are the most influential factors in the model. Performance Expectations are related to Trust and Intention to Use, which confirms that the assessment of the perceived benefits of transactions is the basis for application acceptance. Supporting Conditions are also related to Trust and Intention to Use, so that the availability of devices, network access, technical assistance, and mentoring play a role in comfort and readiness to use. In contrast, Effort Expectations and Social Influence do not show a significant relationship, so that the ease of interface and environmental encouragement are not the main drivers in the retired segment. Trust is not significantly related to Intention to Use and does not mediate the relationship between UTAUT variables and Intention to Use, leading to the interpretation that the intention to use among retired users is more closely related to practical benefits and operational support than psychological mechanisms through Trust.

Based on these findings, practical recommendations for Movin service managers and banks focus on strengthening easily recognizable benefits and supporting usage tailored to retirees' needs. First, product features and communications should highlight the benefits most relevant to retirees' routine transactions, such as streamlined transaction flows, clear transaction receipt displays, and easy-to-understand transaction status information. Second, operational support needs to be strengthened through readily accessible support services, assistance at branches or service points, simple guidance materials, and straightforward problem-solving mechanisms. Third, security and error prevention aspects need to be strengthened through clear notifications, clear but unambiguous transaction confirmations, and brief educational materials on safe digital transaction practices. From an academic perspective, further research could include constructs such as habits, risk perception, technology anxiety, and digital literacy to explain the dynamics of usage interest among seniors, expand the scope of respondents across regions or banks, and employ longitudinal designs or mixed-approach approaches to better capture the transition from trial to routine use.

## REFERENCES

- Alalwan, A. A., Dwivedi, Y. K., & Rana, N. P. (2017). Factors influencing adoption of mobile banking by Jordanian bank customers: Extending UTAUT2 with trust. *International Journal of Information Management*, 37(3), 99–110. <https://doi.org/10.1016/j.ijinfomgt.2017.01.002>
- Czaja, S. J., Boot, W. R., Charness, N., Rogers, W. A., & Sharit, J. (2018). Improving social support for older adults through technology: Findings from the PRISM randomized controlled trial. *The Gerontologist*, 58(3), 467–477. <https://doi.org/10.1093/geront/gnw249>
- Dwivedi, Y. K., Rana, N. P., Jeyaraj, A., Clement, M., & Williams, M. D. (2019). Re-examining the Unified Theory of Acceptance and Use of Technology (UTAUT): Towards a revised theoretical model. *Information Systems Frontiers*, 21(3), 719–734. <https://doi.org/10.1007/s10796-017-9774-y>
- Guner, H., & Acarturk, C. (2020). The use and acceptance of ICT by senior citizens: A comparison of Technology Acceptance Model (TAM) for elderly and young adults. *Universal Access in the Information Society*, 19(2), 311–330. <https://doi.org/10.1007/s10209-018-0642-4>
- Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM. *European Business Review*, 31(1), 2–24. <https://doi.org/10.1108/EBR-11-2018-0203>
- Hair, J. F., Astrachan, C. B., Moisesescu, O. I., Radomir, L., Sarstedt, M., Vaithilingam, S., & Ringle, C. M. (2021a). Executing and interpreting applications of PLS-SEM: Updates for family business researchers. *Journal of Family Business Strategy*, 12(3), 100392. <https://doi.org/10.1016/j.jfbs.2020.100392>
- Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2021b). *A primer on partial least squares structural equation modeling (PLS-SEM) (3rd ed.)*. SAGE Publications.
- Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the Academy of Marketing Science*, 43(1), 115–135. <https://doi.org/10.1007/s11747-014-0403-8>
- Lachowicz, M. J., Preacher, K. J., & Kelley, K. (2018). A novel measure of effect size for mediation analysis. *Psychological Methods*, 23(2), 244–261. <https://doi.org/10.1037/met0000165>
- Marciano, B. B., Khoirunnisa, H., & Susanti, N. (2022). Analisis faktor-faktor yang mempengaruhi penerimaan penggunaan e-wallet pada mahasiswa dengan menggunakan UTAUT2. *Jurnal Ilmiah Informatika*, 7(1), 24–34.
- Namahoot, K. S., & Jantasri, V. (2022). Integration of UTAUT model in Thailand cashless payment system adoption: The mediating role of perceived risk and trust. *Journal of Science and Technology Policy Management*, 14(4), 634–658. <https://doi.org/10.1108/JSTPM-07-2020-0102>
- Namahoot, C. S. (2022). Trust in the UTAUT model: A systematic literature review. *Journal of Theoretical and Applied Information Technology*, 100(5), 1555–1569.
- Saparudin, M., Rahayu, A., Hurriyati, R., & Sultan, M. A. (2020). Exploring the role of trust in mobile-banking use by Indonesian customer using unified theory of acceptance and usage technology. *International Journal of Financial Research*, 11(2), 51–60. <https://doi.org/10.5430/ijfr.v11n2p51>
- Sari, M., & Cristiana, I. (2021). Pengaruh ekspektasi kinerja, ekspektasi usaha, pengaruh sosial, dan kondisi pendukung terhadap minat penggunaan mobile banking pada generasi Z di Kota Jakarta. *Jurnal Ilmiah Manajemen*, 11(2), 235–246.
- Sugiyono. (2005). *Metode penelitian administrasi*. Alfabeta.
- Venkatesh, V., Thong, J. Y. L., & Xu, X. (2016). Unified theory of acceptance and use of technology: A synthesis and the road ahead. *Journal of the Association for Information Systems*, 17(5), 328–376. <https://doi.org/10.17705/1jais.00428>
- Wijaya, A. (2019). *Metode penelitian menggunakan SmartPLS 03*. Innosain.