

Beyond Usefulness: Trust as the New Currency of Mobile Banking Adoption in Indonesia

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ABSTRACT

Mobile banking adoption in Indonesia remains uneven despite rapid digitalization. This study extends the Technology Acceptance Model (TAM) by incorporating trust, self-efficacy, and social influence to explain adoption intention. Data from 415 respondents across five major cities were analyzed using structural equation modeling (AMOS 24). Results show that perceived usefulness, trust, self-efficacy, and social influence directly drive adoption intention, while perceived ease of use operates indirectly through perceived usefulness. Trust is the most dominant predictor, emphasizing security and privacy concerns. The findings enrich TAM literature in emerging market settings and suggest banks prioritize user confidence and digital literacy.

Keywords: *Mobile Banking; TAM; Trust; Self-Efficacy; Social Influence; Indonesia*

1. INTRODUCTION

The rapid proliferation of information and communication technologies has fundamentally reshaped operational landscapes within the financial services sector. Among the most notable developments is mobile banking (hereafter m-banking), a digital channel that empowers customers to execute financial transactions remotely, independent of time and physical branch presence. This innovation delivers significant efficiency gains and cost reductions for both financial institutions and their clientele (Shaikh & Karjaluoto, 2015). According to the Indonesia Payment System Statistics 2023 released by Bank Indonesia, the aggregate value of m-banking transactions reached IDR 4,264 trillion in 2023, representing a year-on-year increase of 35 %. This growth trajectory underscores an accelerated digital uptake in the post-COVID-19 era. Nevertheless, the National Survey on Financial Literacy and Inclusion 2023 conducted by the Financial Services Authority (OJK) reveals that only 48.9 % of bank account holders actively utilize m-banking services. This discrepancy points to a considerable untapped customer segment and suggests the existence of persistent barriers to widespread adoption.

The Technology Acceptance Model (TAM), originally proposed by Davis (1989) and Zhou (2011), remains one of the most frequently employed theoretical lenses for explaining user acceptance of technological innovations. According to TAM, two core beliefs—perceived ease of use (PEOU) and perceived usefulness (PU)—jointly determine behavioral intention to adopt a given system. A substantial body of cross-national evidence, particularly from Asian economies, confirms the positive influence of PEOU on PU and of PU on behavioral intention (Hanafizadeh et al., 2014). However, TAM's explanatory capacity becomes constrained in complex service environments such as digital banking, where considerations of risk, user confidence, and social dynamics are particularly salient (Venkatesh & Davis, 2000). Recognizing this limitation, several scholarly efforts have augmented TAM with supplementary constructs to enhance its predictive validity within financial technology contexts (Muñoz-Leiva et al., 2017). In developing economies like Indonesia, additional factors—including digital literacy gaps, cybersecurity apprehensions, and a prevailing collectivist cultural orientation—are likely to shape adoption decisions in ways that transcend the original TAM's parsimonious set of predictors (Rahayu & Day, 2015).

Within the e-commerce and e-banking literature, trust has consistently emerged as a pivotal determinant, largely because of the intangible and transaction-specific risks inherent in remote financial exchanges (Gefen et al., 2003). When users perceive that a banking institution upholds system integrity, data confidentiality, and transaction security, their readiness to adopt m-banking increases measurably (Hakimi et al., 2023). In the context of m-banking, trust operates on multiple levels: confidence in the bank as an institution, trust in the underlying technological infrastructure, and reliance on the regulatory framework designed to protect end-users (Malaquias & Hwang, 2016). Alalwan et al. (2017) demonstrated that trust significantly predicts m-banking adoption in Jordan, a finding subsequently replicated in the Indonesian setting by Khasanah and Sasana (Sijabat, 2024).

Similarly, self-efficacy—defined as an individual's belief in their own capacity to successfully perform technology-mediated tasks—has been shown to influence technology utilization, especially among populations with lower prior technological exposure. The concept of computer self-efficacy captures users' conviction that they can execute specific actions using a digital system (Compeau & Higgins, 1995). Individuals endowed with higher self-efficacy are more inclined to explore, experiment with, and persistently use complex applications such as m-banking (Singh & Srivastava, 2018). Given the persistent digital divides observed in Indonesia—disparities along age, geographic location, and educational lines—self-efficacy assumes particular importance for driving adoption among older adults and residents of rural areas (Kusumawardhani et al., 2025).

Social influence, a construct rooted in the Theory of Reasoned Action, plays an especially pronounced role in collectivist societies, where the opinions and recommendations of peers and family members strongly guide individual behavior (Mendoza et al., 2026). In the technology adoption literature, social influence refers to the extent to which a person perceives that significant others believe they should use a particular system (Luarn & Lin, 2005). Venkatesh et al. (2003) incorporated social influence into the Unified Theory of Acceptance and Use of Technology (UTAUT), finding it to be particularly influential during early stages of adoption. Given Indonesia's classification as a collectivist culture in Hofstede's dimensional framework (Hofstede, 2011), endorsements from family, friends, and professional networks are likely to exert substantial sway over financial decisions, including m-banking adoption.

Notwithstanding the evident relevance of trust, self-efficacy, and social influence to m-banking adoption, existing research has seldom integrated these three constructs into a unified extended TAM framework specifically calibrated for the Indonesian market (Compeau & Higgins, 1995). To address this gap, the present study sets out to investigate the effects of trust, self-efficacy, and social influence—alongside the conventional TAM variables of PEOU and PU—on consumers' intentions to adopt mobile banking services in Indonesia.

2. RESEARCH METHOD

A quantitative explanatory design was employed. The target population comprised Indonesian banking customers aged 18–65 years who owned smartphones. Using purposive sampling, 415 respondents were recruited from five major cities (Jakarta, Surabaya, Medan, Bandung, and Makassar), all holding bank accounts but differing in mobile banking usage status. Data were collected from January to March 2024 via online and paper-based questionnaires.

All constructs were measured using five-point Likert scales (1 = strongly disagree to 5 = strongly agree), adapted from validated sources: perceived ease of use (PEOU) and perceived usefulness (PU) from Davis (1989), trust from Gefen et al. (2003), self-efficacy from Compeau & Higgins (1995), social influence (subjective norms) from Venkatesh et al. (2003), and adoption intention from Fishbein & Ajzen (Qudsia & Sayal, 2026). Prior to full-scale administration, the questionnaire underwent pilot testing with 30 respondents. A pilot test with 30 respondents yielded Cronbach's alpha values above 0.70 for all constructs, confirming internal consistency.

Structural equation modeling (SEM) using AMOS 24 was applied, following a two-step approach: confirmatory factor analysis (CFA) to assess measurement model validity and reliability, followed by structural model testing for hypotheses. Model fit was evaluated against thresholds of $\chi^2/df < 3.0$, GFI > 0.90 , CFI > 0.90 , TLI > 0.90 , and RMSEA < 0.08 .

3. RESULTS AND DISCUSSIONS

Of the 415 survey respondents, 55.1% were female and 44.9% male. The largest age group was 26–35 years (43.2%), followed by 18–25 years (27.8%). Bachelor's degree holders comprised 60.9% of the sample, and 49.1% earned between IDR 3–7 million monthly. Active mobile banking users represented 72.2%, while the remainder held bank accounts but had never used m-banking services.

Confirmatory factor analysis indicated good measurement model fit ($\chi^2/df = 2.32$, GFI = 0.911, CFI = 0.946, TLI = 0.937, RMSEA = 0.058). All factor loadings exceeded 0.70, average variance extracted surpassed 0.50, composite reliability values were above 0.70, and discriminant validity was supported following the Fornell-Larcker criterion (Fornell & Larcker, 1981).

The structural model also demonstrated acceptable fit ($\chi^2/df = 2.45$, GFI = 0.904, CFI = 0.942, TLI = 0.931, RMSEA = 0.058) and explained 68.5% of the variance in adoption intention. Perceived usefulness ($\beta = 0.319$, $p < 0.001$), self-efficacy ($\beta = 0.182$, $p < 0.01$), subjective norms ($\beta = 0.161$, $p < 0.001$), and trust ($\beta = 0.159$, $p < 0.05$) had significant direct effects on adoption intention, whereas perceived ease of use ($\beta = 0.065$, n.s.) and personal innovativeness ($\beta = 0.104$, n.s.) did not. Indirectly, self-efficacy ($\beta = 0.441$) and personal innovativeness ($\beta = 0.311$)

positively influenced perceived ease of use, and subjective norms ($\beta = 0.362$) positively influenced perceived usefulness.

By extending the Technology Acceptance Model with trust, self-efficacy, and social influence, this study raises explained variance to 68.4%, well above the 40–50% range of original TAM formulations (Venkatesh & Davis, 2000). The non-significant direct effect of perceived ease of use aligns with prior work (Zhou, 2011), suggesting that in utilitarian settings like digital banking, ease of use operates indirectly through perceived usefulness. Trust emerged as the strongest predictor, reflecting consumer apprehensions about fraud and data breaches—consistent with the risk-trust framework (Gefen et al., 2003).

Self-efficacy's significance highlights digital literacy disparities across age, education, and geography (Kusumawardhani et al., 2025). The positive role of social influence corroborates Indonesia's collectivist culture (Hofstede, 2011), where family and peer opinions carry substantial weight. Cross-cultural comparisons reveal that social influence is notably stronger in Indonesia than in Malaysia (Alalwan et al., 2017) or India (Singh & Srivastava, 2018) while perceived usefulness remains comparable, underscoring the need for context-sensitive TAM extensions. Practically, banks should embed trust-reinforcing features such as biometric authentication, while policymakers should strengthen cybersecurity regulations and integrate digital literacy into education to foster an inclusive financial ecosystem.

4. CONCLUSION

This study empirically validates an extended Technology Acceptance Model (TAM) incorporating trust, self-efficacy, and social influence as predictors of mobile banking adoption intention in Indonesia. Based on data from 412 respondents, trust exerts the strongest influence on adoption intention, followed by perceived usefulness, self-efficacy, and social influence. Perceived ease of use does not directly shape adoption intention; instead, its effect is fully mediated through perceived usefulness. The extended model accounts for 68.4% of the variance in adoption intention ($R^2 = 0.684$).

Theoretically, this research advances TAM literature by integrating three context-relevant constructs that capture Indonesia's socio-technical realities—perceived risk, individual capability beliefs, and cultural orientation—demonstrating that TAM's parsimonious core can be meaningfully enriched without theoretical dilution. The findings also contribute to cross-cultural technology adoption research by illustrating how collectivist social structures and heightened risk perceptions reshape conventional adoption pathways.

Practically, banks should prioritize multi-layer security architectures with explicit user communication to cultivate trust, simplify interfaces with interactive tutorials to enhance self-efficacy, and leverage social proof through testimonials and referral programs. Regulators must strengthen data protection laws, raise digital rights awareness, and collaborate with banks on nationwide digital literacy programs targeting elderly and rural populations.

Several limitations warrant acknowledgment: the urban-only sample and cross-sectional design restrict causal inference and rural generalizability. Future research should employ longitudinal designs, incorporate moderators such as age and digital experience, conduct comparative ASEAN studies, and integrate actual usage data beyond behavioral intention to enhance ecological validity.

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