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Adoption of Mobile Banking Applications: Effects of Short-Term Thinking Mindset and Serial Mediation of Perceived Risk, Usefulness, and Trust

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ABSTRACT

In contemporary business environments, a short-term thinking mindset that prioritizes immediate outcomes often undermines long-term planning and may impede the adoption of emerging technologies. Although prior research on mobile technology adoption has emphasized functional and cognitive factors, limited attention has been given to mindset-driven explanations. This study adopts a mindset–perception–behavior framework to examine how individuals with a short-term thinking orientation adopt mobile banking applications, with a particular focus on the mediating roles of perceived risk, trust, and usefulness. Using SEM on data collected from 207 university students, the results show that short-term thinkers exhibit heightened concerns about data privacy and security, which in turn diminish their perceived trust and usefulness of mobile banking services. Consequently, individuals with a short-term thinking mindset are unlikely to adopt mobile banking applications unless they consciously evaluate these mediating perceptions. Specifically, perceived risk exerts a sequential influence on both perceived usefulness and trust, which mediate their decision to adopt these applications. The findings offer practical insights for financial institutions aiming to better serve customers with a short-term thinking orientation. The study concludes by discussing its limitations and suggesting directions for future research.

Keywords: Short-term thinking, Mobile banking, Perceived risk, Perceived trust, Perceived usefulness, Technology adoption.

INTRODUCTION

The range of services offered through mobile banking continues to expand because it enables customers to access banking functions from any location and often

provides more favorable interest rates and lower service fees compared to traditional banking channels (Almaiah et al., 2023). In the post–COVID-19 context, mobile banking applications have become an essential tool for conducting financial transactions via mobile devices (Lutfi et al., 2022), contributing to their widespread adoption. This rapid technological development has driven the banking sector to examine both the barriers that hinder consumer adoption and the factors that encourage continued use of mobile banking services (Kumar et al., 2023).

Despite the advantages of mobile banking, individuals with a short-term thinking mindset may find it difficult to adopt such innovations because they often lack the long-term perspective required to recognize future gains. The fast pace of modern life and growing preference for immediacy have contributed to a culture of short-termism, where immediate outcomes overshadow long-term considerations (Böhme, 2023; Wiersema et al., 2025). As a result, those who prioritize short-term goals may struggle to appreciate the delayed benefits associated with new technologies and may view them as unnecessary disruptions to familiar routines (Van-Gelder et al., 2025). This hesitation may hinder their involvement with mobile banking and lead to missed opportunities to reap its long-term benefits. Understanding the mindset of short-term thinkers can help financial institutions tailor their change management and communication strategies, thereby addressing users' concerns and reducing resistance to the adoption of mobile banking applications.

Many studies have employed individuals' perceptions of the characteristics of technology to understand its adoption, such as perceived usefulness, perceived trust, perceived risk, and perceived ease of use (Alsadoun et al., 2023; Ramtiyal et al., 2023). However, a majority of these studies have viewed perceived trust, risk, and usefulness as factors that influence the intention to adopt mobile banking services (Almaiah et al., 2023; Kumar et al., 2023; Sassi et al., 2022). Perceived risk is crucial in shaping individual behavior and decision-making about technology adoption. Individuals may delay their decisions to embrace new technologies until they perceive the associated risk as more manageable or acceptable (Kumar et al., 2023). Perceived trust is often influenced by the reliability and performance of technology. When individuals trust that a technology can function as expected, they are more likely to adopt it (Almaiah et al., 2023). Perceived usefulness is a critical determinant of technology adoption, as it significantly influences individuals' attitudes, intentions, and behaviors toward embracing and utilizing new technologies (Putro & Takahashi, 2024). Although the associations among perceived risk, usefulness, and trust have been shown in previous literature to be related to the adoption intention of technology, it remains unclear how these factors mediate the pathway through which a short-term thinking mindset impacts the adoption intention of technology.

This study develops a mindset–perception–behavior framework to investigate how individuals with short-term thinking orientations adopt mobile banking technology. The research specifically aims to examine the influence of a short-term thinking mindset on the behavioral intention to use mobile banking applications, with perceived risk, trust, and usefulness operating as sequential mediators. The findings address a gap in the literature on mobile banking adoption by shedding light on how individuals with short-term thinking tendencies approach mobile banking apps based on their perceptions of risk, trust, and usefulness. Additionally, the study offers valuable insights for financial institutions on understanding and meeting the needs of short-term thinkers, aiming to attract them to use mobile banking services.

The following sections discuss the theoretical background of the constructs examined in this study, as well as the domain of the study. The discussions on hypothesis development and research methodology are followed. The paper then discusses the analysis results and the study's implications. Finally, the study highlights its limitations and directions for future research.

THEORETICAL BACKGROUND

This section explains the relationships between mindsets, perceptions, and behavior. It then covers the study's constructs, including a short-term thinking mindset and perceptions towards technology adoption involving perceived risk, perceived usefulness, and perceived trust. Finally, the section briefly discusses the current situation of mobile banking applications as a domain of this study.

Mindset-Perceptions-Behavior Relationships

Mindset refers to the established set of beliefs, assumptions, and thought patterns that individuals hold, shaping how they interpret experiences and react to challenges (Buchanan, 2025). According to the mindset theory, mindsets encompass fixed mindsets, which view abilities as unchangeable, and growth mindsets, which perceive abilities as developable (Jain & Weiten, 2020). Mindset differs from perception in that mindset refers to an individual's attitude towards their goals, whereas perception refers to an individual's understanding of their surroundings. Perception involves interpreting and organizing sensory information to understand our surroundings. This process involves not only what people see, hear, and touch, but also their beliefs, experiences, and cultural background (Hu & Zhang, 2024). Psychologists define mindset as a way of thinking that influences how individuals perceive, feel, and behave (Buchanan, 2025). Mindsets, therefore, shape individuals' perceptions of their surroundings. For instance, having a health mindset influences how patients perceive and communicate their pain (Parsamanesh & Vysochyn, 2024). Research shows that adolescents with a fixed health

mindset are more likely to see an illness or injury as a major setback compared to those with a growth mindset (Desveaux & Ivers, 2024). Mindset also affects perceptions of partner superiority (Buchanan, 2025).

Additionally, perception is a powerful force that profoundly influences individual behavior. Perception is recognizing and understanding something through the senses, activating the autonomic nervous system for reflex responses, and engaging cognitive areas for analysis (Nes et al., 2021). It influences how individuals interpret the world, guiding their decisions and interactions, and acts as a filter through which they interpret reality, shaping their choices and actions (Kim & Kwon, 2024). Individuals' perception of the environment is not entirely rational. They may interpret reality differently and behave accordingly, regardless of whether their interpretations are accurate (Hu & Zhang, 2024). People can have different perceptions of the same event based on their unique experiences, beliefs, and mindsets, leading them to respond in distinct ways. Hence, people reflexively behave based on their perceptions. In sum, the relationships between individuals' mindsets, perceptions, and behaviors are shown in Figure 1.

Figure 1 *Relationship Between Mindset, Perception, and Behavior.*

Short-Term Thinking Mindset

Short-term thinking refers to a cognitive orientation in which individuals place greater emphasis on immediate outcomes, rewards, or concerns, while giving less consideration to long-term implications (Van-Gelder et al., 2025). In contemporary business environments, this mindset has become increasingly pervasive, driven by intense pressure to achieve rapid results. Organizations often face demands to meet quarterly performance targets and demonstrate short-term growth, prompting them to prioritize immediate strategic gains over long-term planning (Böhme, 2023). Financial markets further reinforce this orientation, as the pursuit of short-term returns encourages decision-making that may be misaligned with long-term sustainability, especially within today's volatile and uncertain conditions (Zhang et al., 2024).

Short-term thinking is not limited to corporate settings. It also manifests in everyday decision-making, including the adoption of technology. Individuals with a short-term orientation tend to gravitate toward familiar routines or technologies, as the initial inconvenience, uncertainty, or potential disruption associated with adopting new technologies is perceived as an immediate cost. This perception may outweigh the

prospective long-term advantages of technological innovation (Wiersema et al., 2025). As a result, short-term thinkers are often reluctant to engage with unfamiliar technologies unless the immediate benefits are clear and sufficiently compelling.

Their preference for stability and routine encourages them to maintain existing practices, even when change could yield superior outcomes in the future. By prioritizing short-term comfort and immediate problem-solving over long-term improvement, individuals with a short-term mindset may resist technology adoption that requires initial learning, adjustment, or effort (Zhang et al., 2024). Consequently, this cognitive orientation can hinder the acceptance and use of new technologies, particularly those whose benefits are realized over an extended period rather than immediately.

Perceptions of Mobile Technology Adoption

Perceived risk

Perceived risk plays a crucial role in shaping individual behavior, decision-making, and societal outcomes. Individuals may only postpone decisions or initiatives to adopt new technologies once they perceive the risk as more manageable or acceptable. The risk associated with privacy and security is a significant obstacle to adopting technology, particularly for mobile banking technologies that involve collecting, storing, or sharing sensitive data. Individuals may worry about data breaches, identity theft, or unauthorized access to personal information, leading to concerns about the safety and privacy of their digital assets when using mobile banking applications (Kumar et al., 2023; Ramtiyal et al., 2023). These concerns could undermine trust in mobile banking technology and discourage its adoption. Understanding and managing risk perceptions are crucial for effectively addressing challenges and promoting resilience in adopting mobile banking technology (Alsadoun et al., 2023).

Perceived trust

Trust in mobile technology is often influenced by its reliability and performance and is closely linked to perceptions of security and privacy. When individuals have confidence that a technology will function as expected and deliver consistent results, they are more likely to adopt it (Almaiah et al., 2023). Individuals want assurance that their data will be protected from unauthorized access, breaches, and misuse. Technologies with robust security measures, transparent privacy policies, and a record of safeguarding user data are more likely to be trusted and adopted (Alsadoun et al., 2023). Trust has been extensively scrutinized and validated as a crucial factor in predicting customers' perceptions and intentions toward mobile banking (Apau et al., 2025). Sassi et al. (2022) confirmed trust as a critical factor in determining the likelihood of customers using mobile banking services. However, concerns about

security vulnerabilities or privacy violations can erode trust and deter adoption (Kumar et al., 2023).

Perceived usefulness

Perceived usefulness reflects the extent to which individuals hold the belief that a particular technology will be beneficial in fulfilling their needs or solving their problems (Alshammari & Babu, 2025). This factor plays a crucial role in the adoption of technology, influencing individuals' attitudes, intentions, and behaviors toward adopting and utilizing new technologies (Putro & Takahashi, 2024). Technologies perceived as pertinent and well-matched to specific tasks are more likely to be seen as beneficial. Favorable perceptions of usefulness contribute to user satisfaction, engagement, and sustained use of the technology over time. When individuals perceive a mobile banking application as valuable and dependable in delivering promised benefits or functionality, it strengthens their trust in the mobile banking services (Andavara et al., 2021; Apau et al., 2025).

Adoption of Mobile Banking Application

The number of smartphone mobile subscriptions worldwide surpassed 6.4 billion and is expected to exceed 7.7 billion by 2028 (Taylor, 2024). Mobile banking is one of the most groundbreaking advancements in mobile technology within the banking industry, offering the most cost-effective approach to delivering banking services (Jebarajakirthy & Shankar, 2021; Shankar et al., 2020). Banks and financial institutions typically offer mobile banking applications to provide their customers with convenience, flexibility, and accessibility. They can utilize mobile banking apps to enhance efficiency, provide better services, reduce costs, and promote economic inclusion (Apau et al., 2025). Mobile banking applications typically offer a range of functions, including account monitoring, money transfers, bill payment services, mobile cash withdrawal options, activity notifications, and security features. However, these benefits are accompanied by several drawbacks. Mobile devices remain vulnerable to security threats, including malware, data breaches, and phishing, while some apps may experience performance issues such as glitches, errors, or crashes. These problems can impair the user experience and heighten users’ perceptions of risk when using mobile banking applications.

Regarding the perspectives of mobile banking users, they may be concerned about the privacy of their personal and financial data when using mobile banking apps. Some users prefer face-to-face interactions for complex transactions or help with financial planning. These disadvantages require attention from financial institutions to identify

the factors hindering consumers' use of mobile banking services, which may enhance the adoption of mobile banking applications.

HYPOTHESES AND RESEARCH MODEL

Relationships Between Short-Term Thinking Mindset and Perceptions

The fear of failure is more prevalent among individuals with a short-term perspective when considering the adoption of new technology (Wiersema et al., 2025). Short-term thinkers may see the potential risk of failure and fear the negative consequences, such as wasting time or resources initially. This fear can reduce confidence in adopting mobile technology initiatives, leading them to play it safe by avoiding risks instead of pursuing opportunities for innovation and growth in mobile technologies (Apau et al., 2025). Therefore, the perception of risk in mobile banking apps tends to increase with higher levels of short-term thinking.

H1: Short-term thinking has a positive effect on perceived risk.

Individuals with a short-term mindset predominantly concentrate on immediate benefits rather than long-term outcomes (Böhme, 2023). This perspective often results in hesitancy to adopt novel or unfamiliar technologies due to the immediate effort, inconvenience, or uncertainty that may appear more substantial than potential long-term benefits (Van-Gelder et al., 2025). Consequently, short-term thinking can undermine the perceived value of a technology. The study proposes that in the context of mobile banking, this short-term orientation may cause users to overlook the functional advantages of such applications.

H2: Short-term thinking has a negative influence on perceived usefulness.

Relationships Between Perceptions of Mobile Banking Apps

Concerns regarding security, privacy, or system reliability can negatively influence users’ perception of mobile banking technology as practical and usable (Kumar et al., 2023). Even when mobile banking applications provide clear benefits or effectively support users’ goals and needs, individuals may be reluctant to adopt them if they perceive significant risks (Ramtiyal et al., 2023). Consequently, elevated levels of perceived risk can significantly influence users’ evaluations, thereby reducing the perceived usefulness of mobile banking apps.

H3: Perceived risk negatively affects perceived usefulness.

Risks associated with privacy violations, including concerns that personal information may be misused, accessed without authorization, or shared without consent, can substantially weaken users' trust in mobile banking services (Apau et al., 2025). In addition, perceived risks arising from potential security vulnerabilities, such as unauthorized system intrusions, malicious software, or other forms of cyber exploitation, can further erode trust in mobile service applications (Almaiah et al., 2023). Consequently, elevated levels of perceived risk tend to outweigh and undermine perceptions of trust in mobile banking apps.

H4: Perceived risk negatively affects perceived trust.

Prior research has established a significant association between perceived usefulness and trust within the context of mobile payment and mobile banking services (Apau et al., 2025). Users tend to develop higher levels of trust when they perceive that a mobile banking application is reliable, performs consistently, and effectively delivers the functionalities it claims to offer. In essence, when a mobile banking app successfully fulfills its promised capabilities and aligns with users' expectations, goals, and service needs, individuals are more inclined to consider the app trustworthy (Almaiah et al., 2023). This alignment between expected and actual performance reinforces users' confidence in the system and contributes to the development of trust in the mobile banking environment.

H5: Perceived usefulness positively affects perceived trust.

Relationships Between Perceptions and Behavioral Intention

One significant barrier to adopting technology, especially for mobile banking services that involve the collection, storage, or sharing of sensitive data, is the perceived risk related to privacy and security (Kumar et al., 2023). Individuals have concerns about data breaches, identity theft, or unauthorized access to their personal information, thereby raising concerns about the safety and privacy of their data. These concerns can discourage the adoption of mobile banking apps (Almaiah et al., 2023). In other words, individuals may be hesitant to embrace a mobile banking app when they perceive a high risk.

H6: Perceived risk negatively affects the intention to use mobile banking apps.

When individuals have confidence in the reliability of a mobile banking application and its capacity to deliver consistent and dependable outcomes, they are

more inclined to adopt and continue using the service (Sassi et al., 2022). Moreover, mobile banking applications that incorporate robust security mechanisms, maintain transparent privacy policies, and demonstrate a strong track record of safeguarding users' personal and financial information tend to further strengthen users' intentions to engage with the technology (Almaiah et al., 2023). Consequently, higher levels of trust in mobile banking applications play a crucial role in shaping individuals' intentions to use these services.

H7: Perceived trust positively affects the intention to use mobile banking apps.

Perceived usefulness has been shown to directly affect individuals' intention to adopt mobile payment services and mobile government applications (Andavara et al., 2021). When users perceive that a technology facilitates task completion, addresses specific problems, or helps achieve their goals, they are more likely to engage with and adopt it (Putro & Takahashi, 2024). Therefore, the intention to use mobile banking applications is strongly influenced by users' perception of the apps' usefulness.

H8: Perceived usefulness positively affects the intention to use mobile banking apps.

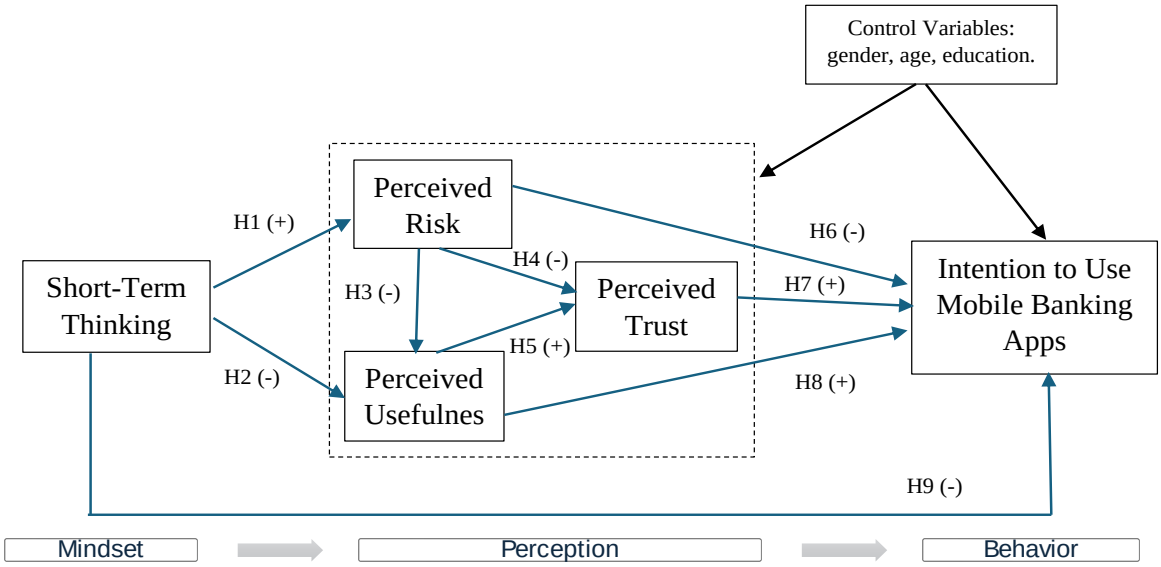
Relationships Between Short-term Thinking Mindset and Behavioral Intention

Short-term thinkers might hesitate to use new technologies due to fear or uncertainty about their immediate benefits. They often avoid embracing unfamiliar technologies, preferring to stick with what they know, even if it means missing out on potential long-term gains (Wiersema et al., 2025). Their priority is solving immediate issues or meeting short-term goals rather than investing in technologies that might yield benefits in the future. Consequently, this short-term focus can reduce their intention to use unfamiliar technologies, including mobile banking apps.

H9: Short-term thinking has a negative effect on the intention to use mobile banking apps.

In accordance with the specified relationships among the constructs in each hypothesis, the conceptual model is illustrated in Figure 2. Furthermore, demographic variables such as age, gender, and education are incorporated as control variables, as they may influence individual perceptions and behavioral intentions regarding technology adoption. The inclusion of these control variables is intended to mitigate bias within the study by diminishing the influence of confounding and extraneous variables.

Figure 2 *Conceptual Model.*



RESEARCH METHODOLOGY

Data Collection and Preliminary Analysis

The study adopted a survey methodology and employed purposive sampling to collect data from students with prior experience using mobile banking applications. The questionnaire items, presented in the Appendix, were adapted from established scales in previous studies (Alshammari & Babu, 2025; Kumar et al., 2023; Putro & Takahashi, 2024; Wiersema et al., 2025). To ensure measurement validity, items with factor loadings below .50 (i.e., stt1, stt4, pt2, pr1, and int1) were removed from their respective constructs (refer to the Appendix). Respondents were asked to indicate the importance of each statement using a five-point Likert scale, ranging from 1 (least important) to 5 (most important). Ethical considerations were observed throughout the study, including obtaining informed consent from participants, ensuring voluntary participation, maintaining confidentiality, and protecting respondents' personal data.

After 250 questionnaires were distributed, 222 questionnaires were returned. After removing outliers and missing data, 207 questionnaires were used for model analysis. 81.6 percent of respondents are between the ages of 21 and 24 years, and 54.6 percent are female. All respondents have used at least one mobile banking application. The primary usage patterns identified among respondents included transferring funds, paying bills, and checking banking notifications or messages, reflecting typical engagement with mobile banking services. The final sample, comprising over 200 observations and exceeding ten times the number of parameters in the proposed model, provided sufficient statistical power for applying structural equation modeling (SEM), ensuring robust and reliable results (Hair et al., 2019). The SEM technique employed in this study consists of two analytical components: the measurement model, which

assesses the reliability and validity of the constructs, and the structural model, which examines the hypothesized relationships between the constructs.

Table 1 *Respondents' Profile.*

Demographics		Frequency	Percent
Gender	Male	94	45.4
	Female	113	54.6
Age	17-20 years	30	14.5
	21-24 years	169	81.6
	> 25 years	8	3.9
Education	Bachelor's degree	200	96.6
	Master's degree	7	3.4
No. apps used	1app	66	31.9
	2 apps	64	30.9
	> 2 apps	77	37.2

Analysis of the Measurement Model

Confirmatory factor analysis is used to examine the quality of a measurement model, including model-fit indices, as well as the reliability and validity of the study constructs. This study examines seven model-fit indices consisting of the ratio of chi-square to degrees of freedom (χ^2/df), goodness of fit index (GFI), adjusted goodness of fit index (AGFI), normalized fit index (NFI), incremental fit index (IFI), comparative fit index (CFI), and root mean square error of approximation (RMSEA). All indices' values in Table 2 meet the recommended criteria, indicating that the measurement model is consistent with the data (Hair et al., 2019).

Table 2 *Fit Indices of the Measurement Model*

Fit indices	χ^2/df	GFI	AGFI	IFI	CFI	RMSEA
Recommended Value	≤ 3.0	≥ .90	≥ .80	≥ .90	≥ .90	≤ .08
Result Value	1.606	.937	.895	.960	.959	.054

Table 3 shows that the Cronbach's alpha coefficients range from .66 to .83, while the composite reliability (CR) values range from .67 to .83. Although some values are slightly below the conventional threshold of .70, they fall within the acceptable range of .60-.70 for exploratory research (Hair et al., 2019). Therefore, all constructs demonstrate sufficient reliability to proceed with further analysis. Convergent validity is supported by the average variance extracted (AVE), which must surpass the

benchmark value of .50 (Cheung et al., 2023). As shown in Table 3, the AVE for each construct exceeds 0.50, indicating adequate convergent validity. Discriminant validity was further assessed by comparing the square root of each construct's AVE with its correlations with other constructs. Table 3 shows that the square roots of the AVEs are greater than the corresponding inter-construct correlations, demonstrating that each construct is empirically distinct from the others. Therefore, the discriminant validity for all constructs is deemed satisfactory (Hair et al., 2019).

Table 3 *Reliability, Convergent Validity, and Discriminant Validity.*

	Loadings	Cronbach's alpha	CR	AVE	STT	PR	PT	PU	INT
STT	.59, .83	.66	.68	.50	**.72**				
PR	.55, .86, .71	.74	.76	.52	.27	**.72**			
PT	.69, .84	.73	.74	.59	.02	-.55	**.77**		
PU	.69, .78, .75, .74	.83	.83	.55	-.13	-.24	.38	**.74**	
INT	.70, .72	.66	.67	.51	-.24	-.36	.54	.65	**.71**

Note. Diagonal elements = square roots of AVEs. Off-diagonal elements = correlation between the construct and all other constructs.

Common Method Bias Analysis

This study employed two methods to assess the impact of common method bias (CMB), which may affect the accuracy of self-reported data. First, a single-factor test was conducted following Harman's approach. The maximum likelihood analysis revealed that the first factor explained only 25.15% of the variance, which is lower than the 50% threshold, suggesting that CMB is not a significant problem. Second, a single unmeasured latent method factor was used, where a first-order factor was introduced and loaded with all measures in the theoretical model (Podsakoff et al., 2023). The model fit indices were as follows: $\chi^2/df = 1.631$; GFI = .937; AGFI = .893; CFI = .958; IFI = .959; RMSEA = .055. These values, compared to the values in Table 2, showed that including the method factor did not enhance the fit of the proposed model, further indicating that CMB was not a concern. In summary, the variance of the common method did not distort the results or the prediction of the present study.

Analysis of the Structural Model

The structural model analyses are summarized in Table 4, which includes four analyses: the conceptual model with and without control variables, and the final model analyses with and without control variables. The final model, which includes control variables (Model 4), demonstrates that short-term thinking has a significant impact on perceived risk ($p < .05$), but does not significantly affect perceived usefulness ($p > .05$).

The perceived risk significantly influences perceived usefulness ($p < .01$) and trust ($p < .001$) but does not significantly impact the intention to use mobile banking apps ($p > .05$). Perceived usefulness has a significant impact on perceived trust ($p < .01$) and the intention to use ($p < .001$), while perceived trust also significantly influences the intention to use ($p < .001$). However, short-term thinking has an insignificant effect on the intention to use mobile banking apps ($p > .05$).

Table 4 *Results of Hypotheses Testing.*

Effects	Conceptual Model				Final Model				Analysis Results
	Model 1		Model 2		Model 3		Model 4		
	β	P	β	P	β	P	β	P	
STT→PR	.296	.008	.294	.009	.295	.019	.284	.028	H1: Supported
STT→PU	-.044	.658	-.049	.620					H2: Rejected
PR→PU	-.226	.014	-.219	.016	-.245	.005	-.238	.005	H3: Supported
PR→PT	-.472	<.001	-.473	<.001	-.480	<.001	-.479	<.001	H4: Supported
PU→PT	.263	.002	.253	.004	.260	.003	.250	.004	H5: Supported
PR→INT	-.002	.987	.007	.948					H6: Rejected
PT→INT	.332	.004	.339	.004	.359	<.001	.363	<.001	H7: Supported
PU→INT	.505	<.001	.508	<.001	.512	<.001	.515	<.001	H8: Supported
STT→INT	-.161	.103	-.157	.113					H9: Rejected
Gender			-.026	.724			-.033	.651	
Age			.005	.943			-.012	.876	
Edu.			-.089	.234			-.089	.235	
R^2					.531		.540		

Table 5 indicates that the model-fit indices of the final model, which are identical to those of the measurement model, meet the recommended criteria. It shows a good fit between the model and the data.

Table 5 *Fit Indices of the Final Model.*

Fit indices	χ^2/df	GFI	AGFI	IFI	CFI	RMSEA
Recommended Value	≤ 3.0	≥ .90	≥ .80	≥ .90	≥ .90	≤ .08
Result Value	1.611	.925	.876	.943	.940	.054

Analysis of the Mediation Effects

This study utilized bootstrap samples at a 95% level for bias-corrected confidence intervals to examine the significant mediation effects of single and serial mediators. The

study examined serial mediation, a causal chain in which the mediators have a specified direction of flow, involving perceived risk, usefulness, and trust. According to Hayes's mediation process analysis (Hayes, 2022), the effect of a short-term thinking mindset on the intention to adopt mobile banking apps is mediated through specific sequences: first through one mediator (SM1 and SM2), then through two serial mediators (SM3, SM4), and finally through three serial mediators (SM5), as shown in Table 6.

Table 6 *Mediation Analysis Results.*

Mediators	Paths	Estimate	Lower Limit	Upper Limit	P value	Mediation Effect
SM1 (STT→PR→INT)						
-	STT→INT	-.120	-.347	.077	.250	-
PR	STT→PR→INT	-.092	-.241	-.028	.004	Yes
SM2 (STT→PU→INT)						
-	STT→INT	-.164	-.333	-.014	.062	-
PU	STT→PU→INT	-.075	-.181	.013	.172	No
SM3 (STT→PR→PU→INT)						
-	STT→INT	-.112	-.287	.014	.156	-
PR	STT→PR→INT	-.040	-.110	-.003	.072	No
PU	STT→PU→INT	-.023	-.141	.054	.590	No
PR, PU	STT→PR→PU→INT	-.035	-.095	-.012	.010	Yes
SM4 (STT→PR→PT→INT)						
-	STT→INT	-.232	-.478	-.005	.087	-
PR	STT→PR→INT	.008	-.053	.102	.700	No
PT	STT→PT→INT	.112	-.010	.300	.170	No
PR, PT	STT→PR→PT→INT	-.117	-.268	-.042	.001	Yes
SM5 (STT→PR→PU→PT→INT)						
-	STT→INT	-.194	-.425	-.018	.055	-
PR	STT→PR→INT	.003	-.052	.079	.914	No
PU	STT→PU→INT	-.038	-.186	.028	.271	No
PT	STT→PT→INT	.075	.007	.243	.069	No
PR, PU	STT→PR→PU→INT	-.032	-.099	-.010	.005	Yes
PR, PT	STT→PR→PT→INT	-.055	-.181	-.012	.007	Yes
PU, PT	STT→PU→PT→INT	-.007	-.047	.003	.205	No
PR, PU, PT	STT→PR→PU→PT→INT	-.006	-.023	-.002	.004	Yes

Note. SM = structural model, STT = short-term thinking, PR = perceived risk, PU = perceived usefulness, PT = perceived trust, INT = Intention to use mobile banking apps.

DISCUSSION AND IMPLICATIONS

The final structural model presented in Table 4 demonstrates that the variables collectively account for 54% of the variance in individuals' intentions to use mobile banking applications. The findings indicate that individuals with a short-term perspective are significantly concerned about the risks associated with data exposure and potential loss of personal information when using mobile banking services (H1: supported). This suggests that individuals with a short-term mindset remain aware of

the security threats associated with mobile banking. Conversely, short-term thinkers do not significantly evaluate the usefulness of mobile banking apps (H2: rejected), likely because perceived usefulness reflects a long-term, performance-oriented appraisal. As noted by Wiersema et al. (2025), short-term thinkers prioritize immediate convenience, quick gratification, and minimal cognitive effort, making them less inclined to assess long-term functional advantages.

Regarding the role of perceived risk, the results indicate that a higher perceived risk has a negative influence on both perceived trust and perceived usefulness (H3 and H4 are supported). This implies that risk perceptions contribute to uncertainty and concerns over privacy and security, which subsequently reduce users' trust in mobile banking and overshadow their recognition of its potential benefits. Furthermore, perceived usefulness exerts a significant positive effect on perceived trust (H5: supported), reinforcing the notion that users are more likely to trust mobile banking applications when they view them as reliable and beneficial, consistent with findings reported by Apau et al. (2025). Interestingly, perceived risk does not have a significant effect on the intention to use mobile banking applications (H6: rejected). This may be attributed to the characteristics of the study sample, which largely consists of young, digitally experienced users between 21 and 24 years old. Such individuals often possess a higher risk tolerance and a habitual reliance on technologies (Nolte & Hanoch, 2024), thereby reducing the extent to which risk perception influences their adoption decisions.

The results also confirm the positive influence of perceived usefulness and perceived trust on users' intention to adopt mobile banking apps (H7, H8: supported), aligning with prior literature that emphasizes their importance in technology adoption decisions (Almaiah et al., 2023; Andavara et al., 2021). These findings suggest that when short-term thinkers perceive the apps as valuable and dependable in fulfilling their expected functions, their intention to use the apps increases accordingly. However, short-term thinking itself does not exert a significant direct effect on usage intention (H9: rejected). Short-term thinkers tend to base judgments on immediate emotional reactions or short-term benefits (Böhme, 2023), whereas forming an intention to use mobile banking represents a future-oriented, deliberative decision that is inconsistent with short-term thinking tendencies. Overall, the results suggest that short-term thinking influences behavioral intention indirectly, operating through perceived risk, perceived trust, and perceived usefulness, without demonstrating a significant direct effect.

Exploration of Serial Mediation Effects

The mediation results presented in Table 6 provide insights into how perceptions of risk, usefulness, and trust shape the relationship between short-term thinking (STT) and the intention to use mobile banking applications (INT). Structural Model 1 (SM1)

shows that perceived risk functions as a mediator between STT and INT. In contrast, Structural Model 2 (SM2) indicates that perceived usefulness does not mediate this relationship. Structural Model 3 (SM3) reveals that perceived risk and perceived usefulness operate as sequential mediators connecting STT to INT, whereas Structural Model 4 (SM4) demonstrates a similar serial mediation through perceived risk and perceived trust. Structural Model 5 (SM5) further establishes that perceived risk, perceived usefulness, and perceived trust jointly mediate the STT-INT relationship sequentially.

Overall, these findings suggest that no single perceptual variable—risk, usefulness, or trust—can independently mediate the influence of short-term thinking on the intention to adopt mobile banking. Instead, perceived risk plays a pivotal role by shaping subsequent perceptions of usefulness and trust, which collectively mediate the effect of STT on behavioral intention to adopt mobile banking services.

More specifically, the mediation results from SM5 emphasize the importance of sequential perceptual pathways in explaining the reluctance of short-term thinkers to adopt mobile banking services. The serial pathway from perceived risk to perceived usefulness significantly mediates the relationship between STT and INT ($\beta = -.032$, $p < .01$). Similarly, the serial linkage between perceived risk and perceived trust demonstrates a significant mediating effect ($\beta = -.055$, $p < .01$). In addition, the full serial chain involving perceived risk, perceived usefulness, and perceived trust also significantly mediates the effect of STT on mobile banking adoption intention ($\beta = -.006$, $p < .01$).

These findings suggest that people with a short-term thinking mindset may not use mobile banking apps unless they first evaluate and align their perceptions of risk, usefulness, and trust. Specifically, risk perception is the initial factor that influences how they later judge the usefulness and trustworthiness of mobile banking apps, which ultimately affects their decision to adopt them.

Implications for Theory

This research provides three crucial implications for theory. Firstly, this research fills the gap in mobile technology adoption by presenting empirical evidence on how perceptions of risk, trust, and usefulness influence each other, shedding light on why short-term thinkers might resist adopting mobile banking services. The findings reveal that a short-term thinking mindset increases the perceived risk of using mobile banking apps, which then influences perceptions of their usefulness and trustworthiness. Without these intervening perceptions, individuals with a short-term mindset might not be as resistant to using mobile banking apps. Secondly, this study validates the model of mindset-perception-behavior relationships. It asserts that individuals' perceptions of

the natural world (as reflected in mobile application apps) fully mediate the influence of their mindset (short-term thinking) on their behaviors (intention to adopt mobile banking apps). In other words, people's mindsets affect their actions and behavior based on their interpretation of the natural world (perceptions). Finally, unlike previous studies in technology adoption that focused on functional, environmental, and cognitive aspects of technologies, this study applied the mindset approach, through the short-term thinking mindset, to understand technology adoption.

Implications for Practice

By understanding how short-term thinkers approach mobile banking technology, Banks can tailor change management strategies to address these individuals' specific concerns and reduce resistance to technology adoption. They may highlight the immediate benefits and quick wins associated with adopting their new mobile banking technologies. However, this study suggests that banks should make their apps more appealing to short-term thinkers by reducing perceived risks, enhancing usability, and fostering trust in their mobile banking applications. Mainly, addressing the perceived risks first is crucial because these perceptions influence their customers' trust and perceived usefulness of the apps, ultimately affecting their intention to use the apps.

To mitigate perceived risks related to privacy and security concerns for short-term thinkers, banks must strike a careful balance between convenience and robust security measures. They could implement simple, secure authentication methods in their apps, such as fingerprint or facial recognition, since short-term thinkers often value convenience over more complex security protocols (Van-Gelder et al., 2025). Restricting users from taking screen captures can help prevent data leakage and unauthorized exploitation, thereby lowering the perceived risks associated with using them.

To improve the perceived usefulness of the mobile banking application for short-term thinkers, a mobile banking app designed for this user group should focus on simplicity and streamline lengthy transaction processes, while incorporating core banking features such as money transfers, bill payments, and account notifications. The app should feature a user-friendly interface with straightforward navigation and intuitive icons, ensuring users can quickly access essential services. Additionally, incorporating one-click access to frequently used features, such as checking account balances or transferring funds, can minimize the time and effort required for transactions.

To foster trust in mobile banking apps for short-term thinkers, banks should ensure that the apps are stable, responsive, and consistently accessible. They require thorough testing and proactive performance monitoring to reduce downtime and technical issues.

Additionally, banks should promptly inform users of any unexpected disruptions and provide updates on maintenance schedules.

CONCLUSIONS AND LIMITATIONS

This research presents valuable insight into the adoption of mobile banking technologies by individuals with short-term mindsets who prioritize immediate gains or instant outcomes without considering the long-term consequences of their actions. This study employs the mindset-perception-behavior relationship perspective to develop the research model. Through the analysis of the structural equation modeling approach, the results indicate that short-term thinkers perceive risks associated with data privacy and security when using mobile banking apps, which makes them less likely to perceive the usefulness and trustworthiness of the apps. Interestingly, despite acknowledging these risks, they do not significantly refuse to use mobile banking apps. The findings also suggest that individuals with a short-term thinking mindset may not accept or refuse to use mobile banking apps without their serial subjective perceptions of risk, trust, and usefulness. This study is among the first to apply a mindset-oriented approach and examine the serial mediation effects of individual perceptions on the adoption of mobile banking technology. By comprehending the perspective of a short-term thinking mindset toward mobile banking technology, Banks and financial institutions can devise technological solutions and address specific concerns to minimize resistance to adopting their mobile banking services.

The study has certain vital limitations that should be addressed in future research. Firstly, the investigation focuses on how short-term thinkers engage with mobile banking applications. The applicability of the findings to the broader adoption of mobile technologies may be questionable. Future studies should explore research models across diverse mobile technological platforms. Secondly, the participants' age groups are controlled for in this analysis; however, the majority of participants in the sample belong to a single age group (21-24 years). Individuals with a short-term thinking mindset may exhibit significant variations across different age groups due to differences in cognitive development, life experiences, and societal influences (Van-Gelder et al., 2025). Future studies might utilize a broader range of age groups to enhance the validity of the research model and its findings. Finally, certain latent constructs in this study are represented by a few indicators, which might not adequately capture the underlying constructs. Future research should incorporate more relevant indicators to define the study's constructs.

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APPENDIX

Variables	Indicator	Description
Short-Term Thinking Mindset (STT)	stt1	Often, I feel a bit uncomfortable even with changes that may potentially improve my life*
	stt2	When someone pressures me to change something, I tend to resist it even if I think the change may be good for me.
	stt3	I sometimes find myself avoiding a change that I know will be good for me.
	stt4	Once I have made a plan, I am unlikely to change it.*
Perceived Trust (PT)	pt1	Mobile banking apps are trustworthy.
	pt2	Mobile banking apps can perform their tasks*
	pt3	Mobile banking apps are reliable.
Perceived Risk (PR)	pr1	Some considerable risks are involved in using mobile banking apps*
	pr2	Using mobile banking apps causes the loss of private information.
	pr3	Using mobile banking apps is insecure.
	pr4	My decision to use mobile banking apps is risky.
Perceived Usefulness (PU)	pu1	Mobile banking apps provide features that fulfill my needs.
	pu2	Mobile banking apps are useful.
	pu3	Mobile banking apps are of acceptable quality for my use.
	pu4	Mobile banking apps are convenient to use.
Intention (INT)	int1	I intend to increase my use of mobile banking apps*
	int2	I am willing to use mobile banking apps in the long run.
	int3	I cannot find a reason to stop using mobile banking apps.

Note. * Indicators with loadings below .50 were excluded to improve model reliability and validity.