Trust, Security, and Technology Acceptance in Mobile Banking: Examining Perceived Ease of Use, Perceived Usefulness, and Behavioral Intention in Nepal

Dr. Gopal Thapa[1], Purnima Thapa[2], Rubina Panta[3]

[1]Faculty of Management, Tribhuvan University, Nepal Commerce Campus, Kathmandu, Nepal

[2]St. Clair College, Windsor, Ontario, Canada

[3]Lincoln International College, Kathmandu, Nepal

[*]Corresponding Author

DOI: https://doi.org/10.51244/IJRSI.2026.1311000053

Received: 04 November 2026; Accepted: 09 November 2026; Published: 22 November 2026

ABSTRACT

Mobile banking has become an important channel for delivering financial services, yet adoption depends not only on functional convenience but also on users' perceptions of usefulness, ease of use, security, and trust. This study examines the relationships between perceived ease of use, perceived usefulness, security and trust, and behavioral intention to use mobile banking in the Kathmandu Valley, Nepal. A quantitative, cross-sectional survey design was employed, and data were obtained from 175 respondents through online and paper-based questionnaires. The measures comprised four items for perceived ease of use, four for perceived usefulness, eight for security and trust, and four for behavioral intention, rated on a five-point Likert scale. The scales demonstrated satisfactory internal consistency, with Cronbach's alpha coefficients ranging from .833 to .908. Pearson correlation analysis indicated positive and statistically significant associations between behavioral intention and perceived ease of use ($r = .569$, $p < .001$), perceived usefulness ($r = .551$, $p < .001$), and security and trust ($r = .754$, $p < .001$). Security and trust exhibited the strongest bivariate association with behavioral intention. The findings suggest that mobile banking providers should attend to usability and functional value while strengthening customers' confidence in transaction security and the handling of personal information. Because the study uses a convenience sample and cross-sectional, self-reported data, the results should be interpreted as associations rather than causal effects.

Keywords: Mobile Banking; Behavioral Intention; Perceived Ease Of Use; Perceived Usefulness; Security; Trust

INTRODUCTION

Digital technologies have reshaped the delivery of banking services by enabling customers to access account information, transfer funds, pay bills, and conduct other transactions through mobile devices. Mobile banking can reduce the time and effort associated with branch-based transactions and extend access to banking services. Nevertheless, the availability of an application does not necessarily ensure its acceptance. Customers' intentions to use mobile banking may depend on whether they perceive the service as useful and easy to operate, and whether they believe that transactions and personal information are adequately protected.

The Technology Acceptance Model (TAM) identifies perceived usefulness and perceived ease of use as central beliefs associated with the acceptance of information systems (Davis, 1989). In financial services, however, adoption decisions also involve perceived vulnerability and confidence in the service provider. Concerns about unauthorised access, privacy breaches, transaction errors, fraud, and the bank's ability to resolve problems may influence customers' willingness to conduct financial activities through mobile platforms. A systematic review

identifies trust and security as recurring considerations in fintech adoption in banking (Jafri et al., 2024), while Apau et al. (2025) integrate security, risk, and different forms of trust into an extended model of mobile banking application adoption.

Evidence from Nepal also indicates the relevance of technology-related beliefs and trust. Lama et al. (2024) report positive relationships involving perceived usefulness, perceived security, and behavioral intention in a Kathmandu-based study. Karki et al. (2024) examine factors including convenience, perceived risk, relative advantage, and trust in mobile banking adoption. Karn (2023) investigates perceived ease of use, self-efficacy, cost, trust, security, and usefulness in relation to intention to use mobile banking in Kathmandu District. Research on Nepalese commercial banking has also identified the importance of brand trust in customer-related outcomes (Thapa & Joshi, 2026), although that study addresses brand equity and loyalty rather than mobile banking adoption.

The present article is based on the research report entitled "Trust and Security Risks of Mobile Banking on Customers Satisfaction." The questionnaire and reported statistical analyses focus on behavioral intention to use mobile banking. Accordingly, behavioral intention is treated as the outcome variable in this article. The study examines the relationships of perceived ease of use, perceived usefulness, and security and trust with behavioral intention among respondents in the Kathmandu Valley.

The study contributes geographically contextualised evidence on mobile banking intentions in Nepal by considering TAM-related beliefs alongside security and trust. It does not claim to establish causal effects or to represent all mobile banking customers in Nepal.

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

2.1 Technology acceptance and perceived ease of use

Perceived ease of use refers to the degree to which an individual believes that using a particular system will require limited effort. In TAM, perceived ease of use is a principal belief associated with information technology acceptance (Davis, 1989). In mobile banking, it concerns the effort involved in learning the application, navigating its functions, initiating transfers, and completing transactions. An interface that users find understandable and manageable may reduce the perceived effort involved in conducting banking activities.

Research in Nepal has considered ease of use alongside other factors associated with mobile and internet banking adoption. Karn (2023) examines ease of use, self-efficacy, cost, trust, security, and usefulness in relation to mobile banking intention, while Shrestha and Kayestha (2025) identify usefulness, ease of use, and risk as relevant considerations in internet banking adoption in Kathmandu Valley. On this basis, the study proposes:

H1: Perceived ease of use is positively associated with behavioral intention to use mobile banking.

2.2 Perceived usefulness

Perceived usefulness refers to the extent to which an individual believes that using a system will improve task performance (Davis, 1989). In the mobile banking context, usefulness may be reflected in the ability to check account information, transfer funds, make payments, and complete banking activities without visiting a physical branch. When customers perceive that mobile banking improves the efficiency or effectiveness of their banking activities, they may report stronger intentions to use it.

Lama et al. (2024) report a positive relationship between perceived usefulness and behavioral intention to adopt mobile banking in Kathmandu. This local evidence supports examining usefulness as a correlate of behavioral intention in the present study.

H2: Perceived usefulness is positively associated with behavioral intention to use mobile banking.

ISSN No. 2321-2705 | DOI: 10.51244/IJRSI |Volume XIII Issue XI November 2026

2.3 Security, trust, and mobile banking

Mobile banking involves the transmission, storage, and processing of financial and personal information. Users may therefore evaluate the security of authentication procedures, transaction processes, data privacy, encryption, and the bank's technical capacity. Security concerns relate to the protection of systems and information, whereas trust concerns the willingness to rely on the bank and its digital services. Although related, these concepts are not identical; the present questionnaire combines them into a single security-and-trust construct.

Jafri et al. (2024) identify trust and security as recurring factors in fintech adoption in banking. Apau et al. (2025) similarly incorporate security, risk, institutional trust, and technology trust in a model of mobile banking application adoption. In Nepal, Lama et al. (2024) report a positive relationship between perceived security and behavioral intention. Thapa and Joshi (2026), in a study of commercial banking customers, provide related contextual evidence concerning the importance of brand trust in customer outcomes. Their study does not directly examine mobile banking intention, so it is used here only as broader evidence on trust in banking relationships.

H3: Security and trust are positively associated with behavioral intention to use mobile banking.

2.4 Conceptual framework

The framework specifies three explanatory constructs—perceived ease of use, perceived usefulness, and security and trust—and one outcome construct, behavioral intention to use mobile banking. The three hypotheses represent expected positive associations. Given the cross-sectional correlational design, the arrows in Figure 1 indicate hypothesised relationships and should not be interpreted as proof of causality.

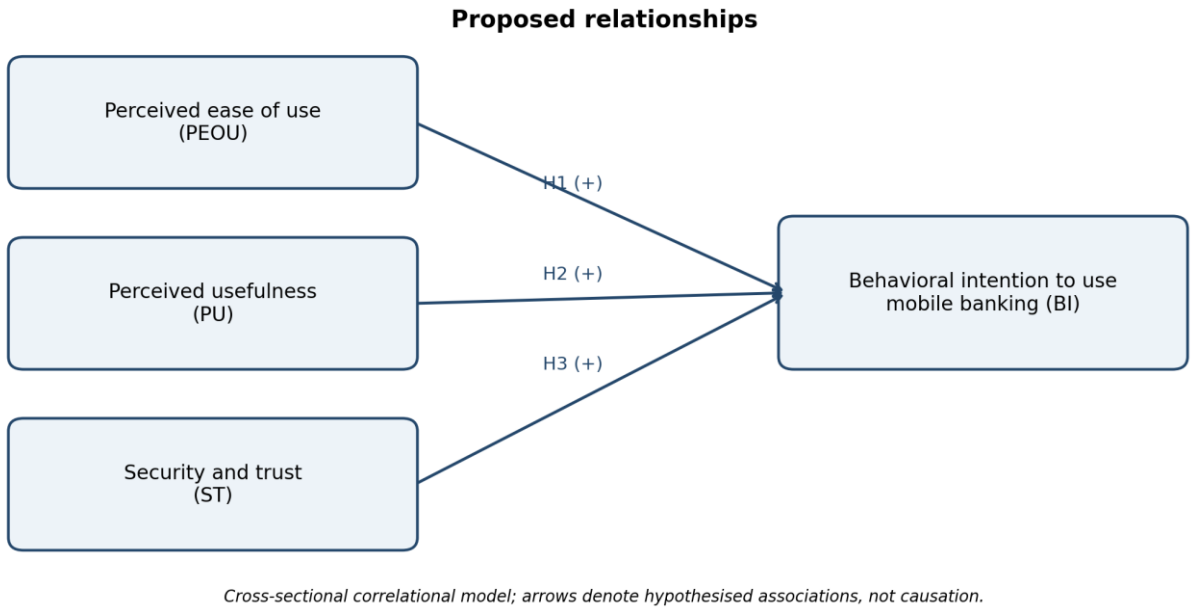

Figure 1. Conceptual framework of the study.

MATERIALS AND METHODS

3.1 Research design

The study employed a quantitative, cross-sectional survey design. Primary data were collected at one point in time through structured questionnaires distributed in online and paper-based formats. The design enables the examination of associations among the measured constructs but does not establish temporal ordering or causal effects.

3.2 Population, sample, and sampling procedure

The target population comprised mobile-phone users in the Kathmandu Valley. The study obtained 175 completed responses. A non-probability convenience sampling approach was used to reach respondents through online and face-to-face distribution

3.3 Measures and instrument

The reported sources of the measurement items are Chuttur (2009) for perceived ease of use and perceived usefulness and Chen and Barnes (2007) for security and trust. The underlying report attributes the four behavioral-intention items to a 2018 source.

Construct	Source reported in study	Number of items
Perceived usefulness	Chuttur (2009)	4
Perceived ease of use	Chuttur (2009)	4
Security and trust	Chen and Barnes (2007)	8
Behavioral intention to use	2018 source (full citation unavailable in report)	4

3.4 Data analysis

The reported analysis comprised respondent-profile frequencies and percentages, item-level means and standard deviations, Cronbach's alpha reliability estimates, and Pearson product–moment correlations. Pearson correlations were used to examine the direction and strength of the bivariate relationships between each explanatory construct and behavioral intention. Statistical significance was evaluated using the reported two-tailed p-values. Cronbach's alpha was interpreted as an estimate of internal consistency and not as evidence of construct validity.

The original article also reported chi-square statistics. These results have not been retained in the The reviewer suggested extending the analysis beyond descriptive statistics and reliability testing. Pearson correlation is itself an inferential procedure and is therefore retained. Multiple regression or structural equation modelling could provide estimates of the unique associations of the three explanatory constructs with behavioral intention. However, these analyses require respondent-level observations and, for SEM, a sufficiently specified measurement model. The materials available for this revision contain aggregate results but not the respondent-level dataset or complete correlation matrix. Consequently, no regression coefficients, model-fit statistics, confidence intervals, or additional significance tests have been generated. Such analyses should be conducted if the original data file can be recovered.

4. Results

4.1 Respondent characteristics

The sample consisted of 175 respondents, of whom 120 (68.57%) were male and 55 (31.43%) were female. The largest age group was 25–29 years (39.43%), followed by 20–24 years (28.00%). A majority held a bachelor's degree (59.43%). In terms of professional status, 34.85% were at officer level and 32.00% at assistant level. Most respondents reported more than four years of smartphone-use experience (78.86%).

Demographic variable	Category	Frequency (n)	Percentage (%)
Gender	Male	120	68.57
	Female	55	31.43
Age	Below 20 years	10	5.71
	20–24 years	49	28.00
	25–29 years	69	39.43

	30–35 years	34	19.44
	Above 35 years	13	7.43
Education	SEE	4	2.28
	Intermediate / +2	15	8.58
	Bachelor's degree	104	59.43
	Master's degree	46	26.28
	Other	6	3.43
Professional status	Assistant level	56	32.00
	Officer level	61	34.85
	Manager level	21	12.00
	Above manager level	3	1.72
	Not working	34	19.43
Smartphone-use experience	Less than 2 years	8	4.57
	2–4 years	29	16.57
	More than 4 years	138	78.86

Note. Percentages are based on N = 175. Minor differences from 100% may occur because of rounding. Category labels and counts are retained from the source report; the age-band labels are reproduced as reported.

4.2 Descriptive statistics

Item-level means ranged from 3.42 to 4.07 on the five-point scale. Within perceived ease of use, the highest mean concerned the ease of sending and receiving money (M = 4.06, SD = 0.90), whereas the lowest concerned ease of adopting the application for transactions (M = 3.80, SD = 1.00). For perceived usefulness, the highest mean concerned improving output quality with the same effort (M = 4.07, SD = 1.04), and the lowest concerned accomplishing more banking activities (M = 3.82, SD = 1.02).

For security and trust, secure receipt of bank statements had the highest mean (M = 3.84, SD = 0.95), while confidence that personal information is private had the lowest mean (M = 3.42, SD = 1.07). For behavioral intention, likelihood of using mobile banking when access is available had the highest mean (M = 3.69, SD = 0.98), while intention to use it more frequently in the future had the lowest mean (M = 3.49, SD = 0.93).

Construct / item	Mean	SD
PEOU: learning to operate mobile banking is easy	3.96	1.00
PEOU: easily send and receive money	4.06	0.90
PEOU: easy to adopt for transactions	3.80	1.00
PEOU: easy to become skillful	3.92	1.04
PU: accomplish more banking activities	3.82	1.02
PU: improve performance in using banking services	3.89	0.93
PU: increase output quality for same effort	4.07	1.04
PU: increase effectiveness	3.93	0.95
Security/trust: transactions are secure	3.69	1.04
Security/trust: privacy is secured	3.42	1.07
Security/trust: legal structures provide protection	3.46	1.08
Security/trust: encryption makes mobile banking safe	3.69	0.94
Security/trust: personal information is protected	3.54	1.05
Security/trust: secure conduct of transactions	3.78	0.99
Security/trust: secure receipt of bank statements	3.84	0.95
Security/trust: bank has sufficient technical experts	3.56	0.99
BI: likely to use if access is available	3.69	0.98
BI: favor the idea of mobile banking	3.64	0.97
BI: use more frequently in future	3.49	0.93
BI: recommend to a friend	3.58	0.84

ISSN No. 2321-2705 | DOI: 10.51244/IJRSI |Volume XIII Issue XI November 2026

4.3 Reliability analysis

Cronbach's alpha coefficients ranged from .833 to .908, indicating satisfactory to high internal consistency for the four reported scales in this sample. These coefficients do not, by themselves, establish convergent validity, discriminant validity, or unidimensionality.

Construct	Number of items	Cronbach's α
Perceived ease of use	4	.8582
Perceived usefulness	4	.8333
Security and trust	8	.908
Behavioral intention	4	.890

4.4 Correlation analysis

All three explanatory constructs were positively and significantly correlated with behavioral intention. Security and trust showed the strongest bivariate association ($r = .754$, $p < .001$), followed by perceived ease of use ($r = .569$, $p < .001$) and perceived usefulness ($r = .551$, $p < .001$). These coefficients indicate association, not causation, and do not show whether each construct has a unique relationship with behavioral intention after controlling for the other constructs.

Explanatory construct	Pearson's r with behavioral intention	Two-tailed significance
Perceived ease of use	.569	$p < .001$
Perceived usefulness	.551	$p < .001$
Security and trust	.754	$p < .001$

DISCUSSION

The findings indicate positive bivariate relationships between perceived ease of use, perceived usefulness, security and trust, and behavioral intention to use mobile banking. Among the three relationships, security and trust had the largest reported correlation with behavioral intention ($r = .754$). This pattern is consistent with research that positions confidence in digital systems and the protection of financial information as important considerations in fintech adoption (Apau et al., 2025; Jafri et al., 2024).

The association between security and trust and behavioral intention is also relevant to the Nepalese banking context. Lama et al. (2024) report a positive relationship between perceived security and mobile banking intention. Thapa and Joshi (2026) provide related evidence that trust is consequential in customer relationships with Nepalese commercial banks, although their study focuses on brand equity and loyalty rather than intention to use mobile banking. The present results therefore complement, rather than replicate, that broader banking research.

The descriptive results provide a more differentiated picture of security perceptions. Respondents rated the secure receipt of bank statements relatively highly ($M = 3.84$), while confidence in the privacy of personal information received the lowest mean within the security-and-trust items ($M = 3.42$). The relatively lower mean for perceived legal protection ($M = 3.46$) also suggests that confidence may vary across different dimensions of security. Banks may therefore need to communicate privacy safeguards, authentication procedures, complaint channels, and fraud-response processes in accessible language.

Perceived ease of use was positively correlated with behavioral intention ($r = .569$). Respondents reported a relatively high mean for the ease of sending and receiving money ($M = 4.06$), suggesting that core transaction functions were generally regarded as manageable. The lower mean for ease of adopting the application for transactions ($M = 3.80$) indicates that the user experience may still involve learning or navigation demands for some customers. This result is consistent with the relevance of perceived ease of use in TAM (Davis, 1989).

Perceived usefulness was also positively correlated with behavioral intention (r = .551). The item concerning improved output quality with the same effort had the highest mean within the usefulness construct (M = 4.07). This suggests that respondents recognised practical value in mobile banking. The finding is consistent with the positive usefulness–intention relationship reported by Lama et al. (2024).

The relative magnitudes of the three bivariate correlations should not be interpreted as evidence that security and trust exert the largest independent effect. The correlations do not control for overlap among the explanatory constructs. A multiple regression model using respondent-level data would be needed to estimate their unique statistical associations with behavioral intention. Similarly, the cross-sectional design does not establish that changes in perceptions cause changes in intention.

6. Theoretical and Managerial Implications

6.1 Theoretical implications

The study provides contextual evidence from the Kathmandu Valley on the association of TAM-related beliefs and a combined security-and-trust construct with mobile banking behavioral intention. The results are consistent with the view that technology acceptance in financial services involves both functional evaluations and confidence in the security and reliability of the service. Because security and trust were measured as a single composite construct, the study cannot determine their separate contributions. Future research should distinguish perceived security, institutional trust, and technology trust and assess their measurement properties.

6.2 Managerial implications

The findings suggest several practical priorities for banks and mobile banking providers. First, applications should support straightforward navigation, clear transaction steps, accessible help functions, and timely transaction confirmations. Second, providers should maintain reliable core functions—including transfers, bill payments, account information, and transaction histories—so that customers can recognise the practical value of mobile banking. Third, providers should explain privacy and security safeguards in clear language and make fraud reporting and complaint resolution accessible. Customer education on phishing, suspicious links, authentication, and account protection may also support informed use. These implications are derived from the observed associations and descriptive patterns; the study does not test the effectiveness of particular interventions.

CONCLUSION

This study examined the relationships of perceived ease of use, perceived usefulness, and security and trust with behavioral intention to use mobile banking among 175 respondents in the Kathmandu Valley. All three constructs were positively correlated with behavioral intention. Security and trust had the strongest bivariate association (r = .754), followed by perceived ease of use (r = .569) and perceived usefulness (r = .551). The results highlight the relevance of both functional technology beliefs and confidence in the security of mobile banking.

The findings should be interpreted within the limits of a cross-sectional convenience sample. They do not establish causal effects, national representativeness, or the independent contribution of each explanatory construct. The study offers a local empirical contribution and provides a basis for future research using larger samples, validated multidimensional measures, and multivariable statistical models.

8. Limitations and Future Research

Several limitations should be acknowledged. First, the sample comprised 175 respondents recruited through convenience sampling in the Kathmandu Valley; therefore, the findings cannot be generalised statistically to all mobile banking customers in Nepal. Second, the cross-sectional self-report design may be affected by common-method and response biases and does not establish temporal or causal relationships. Third, security and trust

were combined into one eight-item construct, preventing examination of their distinct effects. Fourth, the reported results include bivariate correlations but do not provide the intercorrelations among all explanatory variables or respondent-level observations needed for multivariable modelling. Future studies should use broader geographic coverage, probability-based or carefully stratified sampling where feasible, and validated measures that distinguish security, institutional trust, and technology trust. Researchers should also report measurement validity and conduct multiple regression or structural equation modelling when the data and sample design support those analyses.

REFERENCES

1. Apau, R., Titis, E., & Lallie, H. S. (2025). Towards a better understanding of mobile banking app adoption and use: Integrating security, risk, and trust into UTAUT2. Computers, 14(4), Article 144. https://doi.org/10.3390/computers14040144
2. Chen, Y.-H., & Barnes, S. (2007). Initial trust and online buyer behaviour. Industrial Management & Data Systems, 107(1), 21–36. https://doi.org/10.1108/02635570710719034
3. Chuttur, M. Y. (2009). Overview of the technology acceptance model: Origins, developments and future directions. Sprouts: Working Papers on Information Systems, 9(37), 1–21. http://aisel.aisnet.org/sprouts_all/290
4. Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. MIS Quarterly, 13(3), 319–340. https://doi.org/10.2307/249008
5. Jafri, J. A., Mohd Amin, S. I., Abdul Rahman, A., & Mohd Nor, S. (2024). A systematic literature review of the role of trust and security on Fintech adoption in banking. Heliyon, 10(1), Article e22980. https://doi.org/10.1016/j.heliyon.2023.e22980
6. Karki, D., Bhattarai, G., & Dahal, R. K. (2024). User acceptance determinants in m-banking adoption. Nurture, 18(1). https://doi.org/10.55951/nurture.v18i1.565
7. Karn, V. (2023). Customer perception towards mobile banking services in Kathmandu District. Journal of Corporate Finance Management and Banking System, 4(1), 34–49. https://doi.org/10.55529/jcfmbs.41.34.49
8. Lama, P. B., Subedi, R., Lamichhane, B. D., Karki, M., & Chalise, S. (2024). Digital transformation of banking: Assessing mobile banking adoption in Nepal. International Journal of Business Strategy and Social Sciences, 7(1), 36–46. https://doi.org/10.18488/171.v7i1.3889
9. Schierz, P. G., Schilke, O., & Wirtz, B. W. (2010). Understanding consumer acceptance of mobile payment services: An empirical analysis. Electronic Commerce Research and Applications, 9(3), 209–216. https://doi.org/10.1016/j.elerap.2009.07.005
10. Shrestha, S., & Kayestha, M. (2025). Factors affecting the internet banking adoption in Kathmandu Valley. Journal of Innovation in Academia, 3(1), 33–52. https://doi.org/10.32674/jina.v3i1.8254
11. Thapa, G., & Joshi, C. (2026). Unpacking brand equity in emerging banking markets: A structural equation modeling approach to mediated customer loyalty in Nepal. International Journal of Latest Technology in Engineering, Management & Applied Science, 15(9), 2752–2759. https://doi.org/10.51583/IJLTEMAS.2026.150900135