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# Mobile Banking Adoption and Financial Inclusion: The Mediating Role of Intention to Use

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## Abstract

This study explores the impact of digital payment on financial inclusion (FI) in Kathmandu Valley, focusing on mobile banking adoption. Grounded in the Technology Acceptance Model (TAM) and Theory of Planned Behavior (TPB), the research examines the influence of perceived usefulness (PU) and perceived ease of use (PEU) on the intention to use mobile banking (IMB) and its subsequent role in enhancing financial inclusion. Additionally, the study explores the mediating effect of IMB in the relationship between these factors and FI. A quantitative approach was employed, using a cross-sectional design to analyze data from 316 mobile banking users in Kathmandu Valley, collected through structured questionnaires. The data were analyzed using Structural Equation Modeling (SEM) to determine the direct and indirect impacts on financial inclusion. The findings reveal that both PU and PEU significantly influence the intention to use mobile banking, which in turn has a substantial impact on financial inclusion. Moreover, the intention to use mobile banking partially mediates the relationship between PU, PEU, and FI. The study underscores the importance for financial institutions to develop user-friendly mobile banking platforms to enhance customer experience and foster greater financial inclusion. By blending TAM and TPB frameworks, this research provides a novel empirical perspective on digital payments and financial inclusion in a developing region.

Keywords: Financial inclusion, mobile banking, intention to use M-banking, perceived ease of use, perceived usefulness

JEL Classification: D03, G11, G40, G41

## Introduction

According to the Nepal Rastra Bank report for 2022/2023, Nepal's mobile banking witnessed a significant breakthrough, with the number of mobile banking users reaching 21364000, marking a growth rate of 16.7%. In urban cities like Kathmandu, the rapid adoption of digital payments sparked hope for bridging the financial inclusion gap. Financial inclusion refers to the efforts to make financial services and products easily available and affordable for all people, and businesses, regardless of their net worth and size (Grant, 2024). In Kathmandu, financial inclusion has been achieved through Commercial banks and microfinance institutions. However, due

to geographical structure, the rural population finds it difficult to access traditional banking services (Bhusal, 2023).

The advancements in mobile phone technology have revolutionized financial services to serve customers. As it is relatively cheap, secure, and accessible to the population (Ouma et al., 2017). Providing customers with mobile apps to access information and documents will naturally lower the demand for human interaction, ultimately decreasing operating costs. To sustain financial inclusion, mobile banking helps financial institutions like Bank to reach their customers in remote areas (Ouma et al., 2017). Mobile banking is a win-win situation for both financial institutions and customers. For financial institutions, mobile banking reduces transaction costs and helps to increase sales volume. And, customers, they are benefited in terms of the 24/7 system services and also a reduction in transaction costs.

When banks develop more financial products, individuals' ability to access financial services increases, leading to more inclusive financial growth. This study provides insights into how an individual's ability to access and utilize financial services promotes financial inclusion. Many research works have explored how perceived ease of use and usefulness impacts the intention to use mobile banking (Lutfi et al. 2021; Siddik et al. 2014). Nevertheless, a survey of scholarly research in the area of user adoption of technology shows that little effort has been made in exploring how these factors could impact on the identified socio-economic issues; such as financial inclusion. Much of the literature has concentrated on behavioral aspects and technology acceptance without paying attention to how the adoption of mobile banking can improve financial inclusion within financially excluded or rural (Chitungo & Munongo, 2013; Durai & Stella, 2019). Despite the growing importance of financial inclusion in promoting economic development, a research gap, specifically, attempts to link users' perception of mobile banking to its assumed ability to enhance financial inclusion. That is why this study seeks to fill this gap by establishing the relationship between the level of perceived usefulness and perceived ease of use on the adoption of mobile banking for financial inclusion. Although research has been conducted on similar topics, a lack of comprehensive study is lacking in Nepalese context. To provide the foundation for future research in this area, this study contributes to the existing body of knowledge about how financial services promote financial inclusion.

Present study provides valuable insights into practical aspects that shape user acceptance by highlighting how perceived ease of use and usefulness influence the intention to use mobile banking services. By focusing on most prominent variables, the study will contribute to a more nuanced understanding of how mobile banking impacts financial inclusion. This study provides insights into how an individual's

ability to access and utilize financial services promotes financial inclusion. As more people begin to use mobile banking, it encourages banks to develop more financial products to fulfil the needs of the individuals, which impacts the individual's intention to use mobile banking. When banks develop more financial products, it increases individuals' ability to access financial services leading to more inclusive financial growth.

## Literature Review and Hypotheses

### Perceived Usefulness and Intention to Use Mobile Banking

Perceived usefulness (PU) refers to the degree to which user feels that adopting a particular technology will improve their activities (Davis, 1989). Intention to Use Mobile Banking (IMB) is the user's willingness or desire to interact with mobile banking applications. (Ajzen, 1991). PU and IMB correlation is based on the Technology Acceptance Model (TAM) created by Davis (1989). The TAM suggests that users develop beliefs regarding how useful a technology is, which influences their attitude to a technology and, behavioural intention of using it.

In line with above discussed theory, Rehman and Shaikh (2020) in Malaysia demonstrated that PU is one of the main predictors of behavioural intention to adopt mobile banking, which is in line with the TAM framework. Similarly, Parajuli (2023) discovered that PU has a strong influence in behavioural intentions to use mobile banking among the Nepalese users, indicating that the customers are more ready to use mobile banking when they consider it to be useful and effective. Lama et al. (2025) established a positive and significant relationship between PU and intention to adopt mobile banking in Kathmandu, and usefulness is a significant attractor of acceptance. All these results confirm the following hypothesis:

*H1: Perceived usefulness positively impacts the intention to use mobile banking.*

### Perceived Ease of Use and Intention to Use Mobile Banking

Perceived ease of use (PEU) is the degree to which the users find it easy to use the technology application (Davis, 1989). PEU and IMB correlation is based on the TAM (Davis, 1989), which has theorized that the perception of ease of use will have both a direct and indirect impact on the behavioural intentions of the users.

This theoretical relationship is always supported by empirical studies. Wasiul, Arije, and Huda (2020) found in Malaysia that PEU has a positive impact on millennials to use smartphone banking apps, and also found that easy-to-use and intuitive design is essential to attract interest. Similarly, Parajuli (2023) also found PEU have a major impact on the intention to use mobile banking in Nepal, implying that the more customers feel that the service is easy to use, the higher the chance of its adoption. Equally, PEU was found to have a positive impact on adoption intentions in Kathmandu as stated by Lama et al. (2025),

which supports the idea that ease of use has a positive influence on behavioural intention through user-friendly design. The studies together confirm that PEU influence IMB, leading to the following hypothesis:

*H2: Perceived ease of use (PEU) positively affects the intention to use mobile banking (IMB).*

**Intention to Use Mobile Banking and Financial Inclusion**

IMB is described as the desire or intentions of people to use mobile banking services in future (Ajzen, 1991). Financial Inclusion (FI) is the procedures through which individuals and businesses can access and have access to convenient and inexpensive financial services and products that satisfy their requirements (Sarma & Pais, 2011). This theoretical framework is based on the Diffusion of Innovation (DOI) Theory (Rogers et al. 2014). According to DOI, the uptake of new technologies diffuses through populations and the higher this uptake, the higher the accessibility and societal impact is.

This connection is established by empirical studies. Mobile Banking Services and Financial Inclusion in Taita Taveta County, Kenya showed that there was a positive and statistically significant relationship between mobile transactional services and business financial inclusion (Mwangasu et al. 2022). Equally, Agri Traders of India concluded that the use and adoption of mobile banking by agricultural traders in India is a key factor in financial inclusion as it enhances access and utilization of banking services (Tikku & Singh, 2023). More recently, Tawfik (2024) finds that mobile-banking-based services significantly mediate digital finance outcomes linked to financial inclusion. Based on this synthesis, the hypothesis is as follows:

*H3: The intention to use mobile banking (IMB) significantly affects financial inclusion (FI).*

**Mediating Effect**

IMB is a mediating variable between the perceptions of the users towards technology (PU and PEU). TAM (Davis, 1989) notes that cognitive assessments of a technology in terms of PU and PEU determine how the user will influence the IMB. When the intention is formed, it results in the actual adoption behavior in this case mobile banking usage which in turn results in the financial inclusion. This is a mediating mechanism which is backed by empirical studies. Indicatively, Alam et al. (2021) in Bangladesh discovered that behavioral intention is an important mediating variable between user perceptions and adoption of mobile financial services that subsequently enhances financial access. In Indonesia, Setiawan et al. (2023) established that intention to use digital financial services links the effect of perceived technological benefits on financial inclusion among women entrepreneurs. Similarly, Tawfik (2024) pointed out that the intention based adoption of mobile banking plays a big role as a mediator of the connection amid digital technology factors and the outcome of financial inclusion in emerging economies. All of this supports

the theoretical hypothesis that PU and PEU influence the FI via the IMB. Therefore, the following hypothesis is presented:

*H4: Intention to use mobile banking mediates the relationship between PU and FI and PEU and FI.*

## Methods

This study applies a quantitative research approach, where the data from the respondents in the Kathmandu Valley are collected through a cross-sectional research design, which examines relationships among various variables simultaneously, which is vital for employing Structural Equation Modelling (SEM).

### Population, Sampling Design

The target population for this study consists of individuals who actively use mobile banking services in the Kathmandu Valley. The study seeks diverse participants representing many demographic groups, including various age groups, income levels, and educational backgrounds. This variation will capture a spectrum of experiences about the influences that mobile banking has on financial inclusion across different population segments. To ensure a representative sample, the study employed a purposive sampling technique to select the participant. In this study, to decide the sample size the complexity of the SEM model, methods of estimation, and characteristics of the data play a major role. A larger sample size is necessary due to the complexity of the model, consists of numerous constructs. The use of Maximum Likelihood Estimation (MLE) guides the target sample size to be between 200 and 400 respondents, depending on other considerations. The sample size must be raised to account for potential problems if the percentage of missing data is more than 10%. Additionally, a larger sample is necessary if the average error variance among the indicators is low, particularly with commonalities below 0.5. Finally, the study intends to include at least 15 respondents for each estimated parameter in the model to handle departures from the assumption of multivariate normality (Malhotra & Dash, 2022).

Out of the 374 surveys distributed, 316 were selected and 58 were rejected. Of the 316 respondents, 135 (43%) were male and 181 (57%) were female. The study made an endeavor to assess the measurement errors by measuring the latent constructs with the help of multiple observed variables (items) using 5-point Likert scales rooted with “strongly disagree” (1) and “strongly agree” (5). Responses to the PU and PEU were recorded on this scale developed by Davis (1989), and IMB by Davis, et al. (2003).

## Data Collection

Five Point Likert Scale questionnaire has been designed to secure the primary data related to mobile banking and financial inclusion. In the questionnaire, there are five options

for the respondents among which respondents have to select only one. In scaling each question, '1' indicates strongly disagree, and '5' indicates strongly agree. The responses obtained from the respondents have been used to test the hypothesis. The data related to mobile banking have been collected by focusing on major domains of mobile banking like perceived usefulness, perceived ease of use, intention to use, and financial inclusion. Similarly, the statements included in the questionnaire have been focused on how intention to use mobile banking affects financial inclusion.

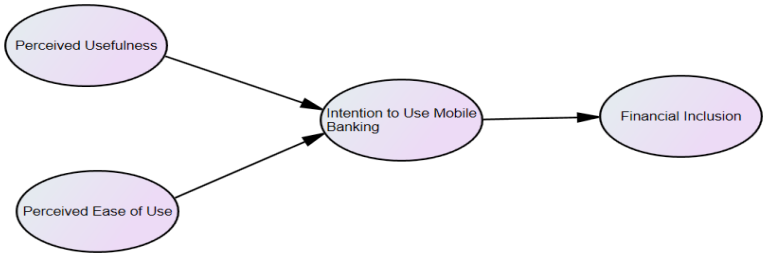


**Figure 1**. Conceptual model

### Instruments Development

The study employed a structured survey consisting of 21 questions, designed to collect data on both demographic characteristics and behavioral or intention to use-related factors. Demographic questions included variables such as age, gender, education, and experience, while the behavioral and intention to use section measured PEU, PU, IMB, FI. The measurement items were adapted from prior studies, including Gosala Raju, 2022, and responses were recorded using a 5-point Likert scale, where 1 indicated strongly disagree and 5 indicated strongly agree. A pilot test was conducted to ensure the reliability and validity of the instrument, and confirmatory factor analysis (CFA) was used to assess construct validity, with low-loading items removed. Additionally, convergent validity and common method bias were examined to enhance the rigor of the study. Data were collected from Kathmandu valley and processed using SPSS and AMOS. The study applied SEM to analyse the relationships among variables and test the research hypotheses. SEM was chosen over alternatives such as PLS-SEM due to its suitability for theory-driven, covariance-based models with serial mediation. This systematic approach ensured that the data analysis was reliable, valid, and aligned with the research objectives.

## Results

The study measured endogenous and exogenous constructs using the same method, increasing the change of the proposed model suffering from common method bias (Podsakoff et al., 2003). Podsakoff & Organ (1986) argued that, in a model, if more than 50 percent of the total variance is explained by a single factor alone, there occurs common method bias.

The study was conducted using SEM in five steps: (1) Defining individual constructs (2) Specifying measurement model (3) Specifying structural model (4) Testing hypothesized relationships (5) Drawing conclusion. Keeping the dependence relationships of Perceived Usefulness, and Perceived ease of use with the Intention to use mobile banking and Financial Inclusion in mind, we selected SEM for these relationships to be explained appropriately. The individual steps of SEM were explained and followed in the subsequent sections.

**Defining individual constructs:** The study made an endeavour to assess the measurement errors by measuring the latent constructs with the help of multiple observed variables (items) using 5-point Likert scales rooted with "strongly disagree" (1) and "strongly agree" (5). Table 1 also shows the psychometric properties of measurement model, where loadings of 17 items were above to the preferred value of 0.7; remaining was above to the minimum value of 0.5. All the loadings were statistically significant at 0.001.

**Table 1.** Proposed Model: Psychometric Properties of Measurement Model

| Items | Loadings | Measurement Error Variance |
|---|---|---|
| PU1: Using the mobile banking is useful in my daily life | 0.698*** | 0.49*** |
| PU2: Using the mobile banking system increases my productivity. | 0.628*** | 0.40*** |
| PU3: Using the mobile banking system saves my time. | 0.589*** | 0.35*** |
| PU4: Using the mobile banking system enhances my efficiency. | 0.687*** | 0.47*** |
| PU5: Using mobile banking allows me to manage my finances more effectively. | 0.728*** | 0.53*** |
| PEU1: I feel that the mobile banking system is easy to use. | 0.744*** | 0.55*** |
| PEU2: I feel that the mobile banking system is convenient. | 0.711*** | 0.50*** |
| PEU3: Getting the information that I want from the mobile banking system is easy. | 0.595*** | 0.35*** |
| PEU4: The mobile banking system requires no training. | 0.475*** | 0.23*** |
| PEU5: The mobile banking system requires no training. | 0.646*** | 0.42*** |
| IMB1: I am planning to use mobile banking frequently. | 0.798*** | 0.64*** |
| IMB2: I expect that I would use mobile banking system in the near future | 0.721*** | 0.52*** |
| IMB3: I would recommend mobile banking to others. | 0.753*** | 0.57*** |
| FI1: Using mobile banking has improved access to financial services. | 0.784*** | 0.61*** |
| FI2: My education plays an important role for me in using mobile banking for availing financial services | 0.642*** | 0.41*** |
| FI3: Geographic location (urban/rural) plays an important role for me in using mobile banking for accessing financial services | 0.575*** | 0.33 |
| FI4: Mobile banking enabled me to access and use of financial services at anytime and anywhere. | 0.588*** | 0.35*** |
| FI5: Mobile banking allows me to manage finance effectively. | 0.748*** | 0.61*** |

**Source:** Authors

**Specifying measurement model:** Measurement model was specified in a way that four constructs were allowed to correlate with each other, and each was made associated with their respective assigned number of items discussed earlier, but not with other items. Figure 2 portrays the resulting measurement model.

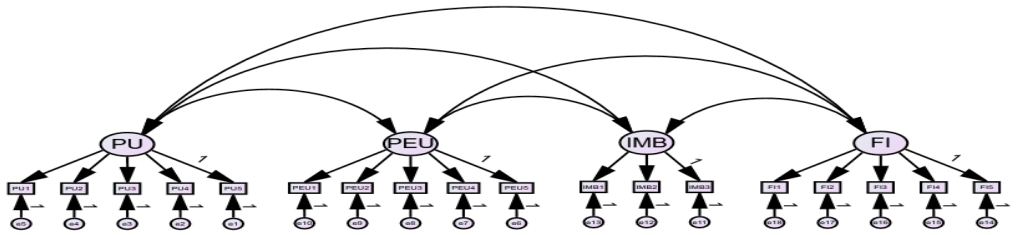


**Figure 2.** Measurement Model

**Assessing Measurement Model Reliability and Validity:** To validate the scales, a four-factor measurement model was configured and tested by conducting the confirmatory factor analysis (CFA). As indicated in Table 2, multiple indices of different types – absolute and incremental – were used along with reporting the value of chi-square with associated degree of freedom to evaluate the model's fit. The validity of the proposed measurement model of initially used total 18 items was not found to be satisfactory as fit indices didn't meet their cutoff values, so an attempt of diagnosing the information provided by CFA was performed to make the appropriate modifications, and in the course, the path estimates, diagnostic cue, were used, which suggested to remove one item from the constructs – financial inclusion. Though it was against the intrinsic nature of CFA, more in keeping with exploratory factor analysis (EFA), the study was still allowed to proceed with the prescribed model and data after making such minor modifications (Malhotra and Dash, 2022). The CFA results presented in Table 2 indicated that the proposed model fits the data pretty well [$X^2$ =292.975, $p < 0.001$ given that DF =110]; particularly, GFI was found to be 0.901 (= 0.90), RMSEA was 0.073 (< 0.08), and CFI was 0.927 (> 0.90).

**Table 2.** Measurement Model: Goodness-and Badness-of-Fit Indices

| Model | Absolute fit Indices | | | Incremental Fit Indices |
|---|---|---|---|---|
| Goodness-of-Fit Index | Badness-of-Fit Indices | | | Goodness-of-Fit Index |
| | GFI | $X^2$ | DF | RMSEA | CFI |
| Four-factor | 0.901 | 292.975 | 110 | 0.073 | 0.927 |

**Source**: Authors

**Note**: GFI = goodness-of-fit index; RMSEA = root mean square error of approximation; CFI = comparative fit index. The model was tested using covariance matrices and maximum likelihood estimation. *** $p < 0.001$.

Other psychometric properties, in addition to modification indices, of the scales like composite reliability and validity were assessed and shown in Table 3. About the composite reliability (CR), the scales outstrip the recommended critical level of 0.70; thus, it was reasonably concluded the scales to be reliable. To test the convergent validity, average variance extracted (AVE) was calculated in terms of completely standardized loadings. The results showed all values of AVE except IMB not meeting the critical level of 0.5, so the validity of individual indicators along with construct seemed questionable. Malhotra and Dash (2022) proposed that AVE is more conservative measure than CR, concluding the convergent validity of the construct built upon CR alone is adequate; thus, the data used for this study confirmed that scales correlated positively with other measures of the same construct. Likewise, as indicated in Table 3, discriminant validity was confirmed since square roots of the AVE were found to be greater than the correlation coefficients in all 6 cases. Overall, for testing the structural model, the scale items were found to be both reliable and valid.

**Table 3.** Measurement Model: Construct Reliability, Average Variance Extracted, and Correlation Matrix

| Construct | Mean | Standard Deviation | Construct Reliability | Average Variance Extracted | Correlation Matrix 1 | 2 | 3 | 4 |
|---|---|---|---|---|---|---|---|---|
| 1.IMB | 4.374 | 0.604 | 0.802 | 0.575 | 0.945 | | | |
| 2.PU | 4.366 | 0.569 | 0.800 | 0.446 | 0.903* | 0.915 | | |
| 3.PEU | 4.263 | 0.551 | 0.773 | 0.441 | 0.915** | 0.888 | 0.941 | |
| 4.FI | 4.297 | 0.553 | 0.788 | 0.486 | 0.862*** | 0.907 | 0.932 | 0.86 |

**Source**: Authors

**Note**: PU = perceived usefulness; PEU= perceived ease of use; IMB = intention to use mobile banking; FI= financial inclusion, Value on the diagonal of the correlation matrix is the square root of AVE.

**Specifying the Structural Model:** Based on the prior research studies, this research hypothesized, PU and PEU would be positively correlated with FI along with IMB mediating these relationships. Again, it was also hypothesized that PU and PEU would be positively associated with IMB. The underlying mechanism of these structural relationships is presented in Figure 3, the arrows flown out from PU and PEU to IMB (Figure 3). On the right-hand side of Figure 3, IMB was linked with FI as hypothesized that IMB would be mediating the relationships between PU, PEU and FI. Meaning, the emphasis was made the relationships between latent constructs and observed variables to be shifted from to the nature and magnitude of relationships among the constructs. The structural model was tested by freeing the structural linkages and fixing the factor loading of one indicator per construct to a value of unity. All the measured indicators were permitted to load on only one construct each, and the error terms were not allowed to correlate with each other.

Factor loadings and error variances together with structural parameters were estimated in specified structural model. The standardized estimates were then compared with the parallel estimates produced in measurement model to trace any inconsistencies (differences > 0.05), and such comparison did not show any inconsistencies as no estimates were found having differences larger than 0.05. This approach was also used to take the fit indices of measurement model as a basis for evaluating the fit indices of structural model (comparison of Table 2 and Table 4).

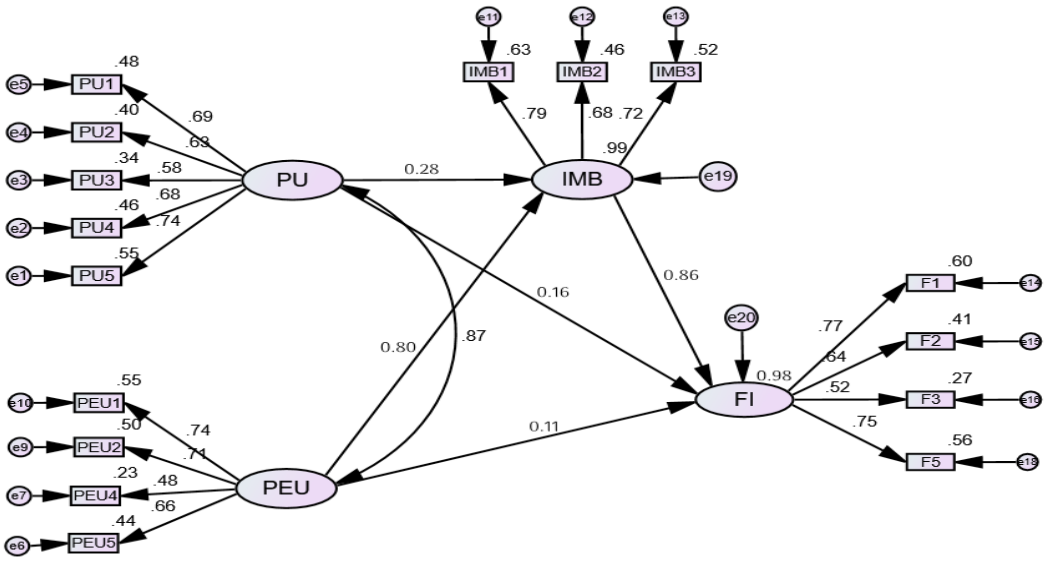


**Figure 3.** Structural Model

**Assessing Structural Model Validity:** The validity of the structural model was tested by using (1) Assessing the fit (2) Testing hypothesized relationships

**Assessing Fit**

The proposed four-factor structural model was a recursive one as it was hypothesized that PU and PEU dimensions would have positive effect on FI and IMB, and IMB would have positive effect on FI, but it wasn't hypothesized that, in turn, FI would impact IMB and PU, PEU, and again, IMB would impact PU and PEU. Thus, the proposed recursive structural model hadn't had a better fit than measurement model. As indicated in Table 4, the estimation of structural model with same sample (n = 316) yielded the fit indices that were more of the same as fit indices of measurement model, providing a better model fit.

**Table 4.** Structural Model: Goodness-and Badness-of-Fit Indices

| Model Goodness-of-Fit Index | Absolute fit Indices Badness-of-Fit Indices | | Incremental Fit Indices Goodness-of-Fit Index | |
|---|---|---|---|---|
| | AGFI | $X^2$ | DF | RMSEA | CFI |
| Four-factor | 0.901 | 292.975 | 110 | 0.073 | 0.927 |

**Source**: Authors

**Note**: AGFI = adjusted goodness-of-fit index; RMSEA = root mean square error of approximation; CFI = comparative fit index. The model was tested using covariance matrices and maximum likelihood estimation. *** $p < 0.001$.

## Testing Hypothesized Relationships

We transformed the theoretical relationships between PU, PEU, IMB, and FI in four different hypotheses as PU and PEU would be positively associated with IMB, IMB would be positively associated with FI, and IMB would be mediating the effects between PU and FI, PEU and FI. These hypotheses were empirically tested based on the identified path model established through sample data. The validity of the proposed structural relationships outlined in Figure 3 was tested to the extent these hypotheses were supported. H1 stated that the users' perceived usefulness result more intended to use mobile banking. As portrayed in Table 5, the effects of PU on IMB were statistically significant (PU: Standardized $\beta = 0.281$; $p < 0.05$; $p < 0.01$), and thus, hypothesis 1 was accepted. H2 stated that the users' perceived ease of use positively relates to Intention to use mobile banking. As demonstrated in Table 5, the effects of PEU on IMB were statistically significant (PEU: Standardized $\beta = 0.801$; $p < 0.01$), and thus, hypothesis 2 was accepted. H3 stated that IMB directly drives FI. As shown in Table 5, the analysis revealed a statistically significant effect of IMB on FI (IMB: Standardized $\beta = 0.864$; $p < 0.001$). This indicates a strong and significant relationship between IMB and FI. Consequently, the results support the proposed hypothesis, demonstrating that IMB directly drives financial inclusion.

The study's review of the conditions for mediation implied that the mediating effects of IMB were undoubtedly present between two exogenous variables (viz. PU and PEU) on FI. As presented in Table 5, the indirect effects of two independent variables, PU ($\beta = 0.693$; $p < 0.05$) and PEU ($\beta = 0.243$; $p < 0.05$) on FI through IMB were statistically significant. By the product of direct effects, the indirect effects were calculated. For instance, the standardized indirect effect of PU on FI through IMB was calculated as the product of standardized coefficients for the paths PU → IMB and IMB → FI or (0.281) * 0.864) = 0.243 (Table 5). The underlying reason behind this estimation was this way: PU had a certain direct effect on IMB (0.281), but merely a portion of this effect, 0.864 of it, was transmitted to FI. The indirect effect of 0.243 implied that the FI is predicted to increase by 0.243 standard deviations for every increase in PU of full standard deviation via its prior

effect of IMB. Since the indirect effects of two independent variables, PU and PEU, on FI through IMB were significant, H4 was strongly supported.

**Table 5.** Path Analysis Results (Direct and Indirect Effect)

| Path | Standardized Path Coefficient | |
|---|---|---|
| | Direct Effect | Indirect Effect |
| PU→IMB | | 0.281* |
| PEU→IMB | | 0.801** |
| PU→FI | | 0.160 |
| PEU→FI | | 0.111 |
| IMB→FI | | 0.864*** |
| PU→IMB→FI | | |
| PEU→IMB→FI | | 0.243* |
| | | 0.693* |

**Source**: Authors

**Note**: To test the statistical significance of the indirect effect, the z-score is calculated as Zab = ab/seab. ***P < 0.001 **P < 0.01 *P < 0.05.

## Discussion

The empirical of this study explored IMB representing the generic mechanism through which the key independent variables (viz. PU and PEU) positively impact FI. The empirical effect of PU and PEU on IMB provided by Hypothesis 1 and 2 is fully supported. As stated, PU and PEU had positive and significant impact on IMB, supporting H1 and H2. These findings align with the (Siddik et al. 2014, Lutfi et al. 2021). PU enhances the perceived value and benefits of the technology, which positively impacts IMB. Users are more likely to use mobile banking when they believe it will improve their financial management. When mobile banking addresses specific needs such as providing quicker access to account information, simplifying bill payment, or simple money transfers, this showcases PU influence on IMB. Users are more inclined to fit in mobile banking into their daily routines when they become aware of its benefits, which include time savings, the ability to manage their finances more effectively, and the ability to eliminate the need for physical visits to banks. PEU positively IMB by making the technology user-friendly. When users view mobile banking as simple to use, they are more likely to adopt it because they anticipate less difficulty in learning and interacting with the system. Perceived ease of use has a greater impact on IMB than PU (Table 5) and the possible explanation for this perhaps is that, PEU directly influences both the initial adoption and ongoing use of technology. Users are more likely to overcome initial obstacles and interact with the mobile banking technology is perceived as easy to use, as they are less startled by technology's complexity. Because of its simplicity of use, users find the system more appealing because it requires less mental work and less time to learn. On the other hand, even if mobile banking is seen as highly useful, users may still be reluctant to use if they perceived it as difficult.

In alignment with Hypothesis 3, our analysis verified the proposal that IMB positively influences FI. Individuals are more likely to interact with mobile banking when they have a strong intention to use mobile banking. When individuals perceive a strong intention to use mobile banking, they are more likely to actively participate in the financial system, which enhances their access to a diverse range of financial products and services. By offering services with a mobile device, mobile banking helps bridge the gap between traditional financial institutions and underprivileged populations. By using mobile technology, these individuals can avoid a lot of the constraints connected to traditional bank branches, which encourages individuals to participate in the equitable financial system. This increased access not only empowers users but also contributes to the objective of improving financial inclusion in underprivileged populations.

The significant support for Hypothesis 4, indicating that IMB mediates the relationships between PU and FI, as well as between PEU and FI, highlights the critical role of user intention in these dynamics. Our findings align with the Technology Acceptance Model (TAM), which posits that perceived usefulness and ease of use significantly influence technology adoption through user intention (Davis, 1989). Specifically, the positive impact of PU on FI since it increases the intention to use mobile banking, which promotes greater adoption and financial inclusion. Similarly, the ease of use affects FI by enhancing users' intention to engage with mobile banking services. This mediation effect shows that while perceived attributes of mobile banking are significant, their influence on financial inclusion is mediated by users' willingness to interact with the technology. The findings suggest user intention is crucial in converting perceptions of usefulness and ease into real usage and increased financial access. This underscores the necessity of developing strategies that improve the perceived benefits and usability of mobile banking and encourage users to use these services.

**Theoretical Implications**

The findings of this research provide a valuable theoretical contribution to the knowledge on mobile banking adoption and its contribution to the process of enhancing financial inclusion. The results validate the argument that the cognitive appraisals of the PU and PEU continue to dominate behavioural intention even in the digital financial services sector of the developing economies. The research also contributes to the generalizability of the technology acceptance theory to the traditional organizational setting by demonstrating that the intention to use mobile banking is transformed into the larger socioeconomic impact, especially enhanced access to the financial services. Besides, the mediating aspect of behavioural intention offers a precise theoretical approach to how personal perceptions of technology are converted into improved financial inclusion, thus fitting behavioural adoption theory with financial inclusion models.

### Practical Implications

In practice, this research has useful implications on the work of bank managers, policymakers, app creators, and regulators aiming to increase digital financial services. As PU and PEU have been found to play a strong role in the IMB, the financial institutions need to focus on developing efficient and secure applications that are aligned with the daily financial requirements of users. There is an opportunity to enhance transaction speed, reliability and security in order to reinforce the PU as well as to facilitate easier navigation and user-friendly interfaces to increase ease of use, which can stimulate subsequent usage. The marketing mix must include convenience, accessibility, and time-saving benefits with specific digital literacy and user education programs on top to enhance confidence. Mobile banking, at policy level, must be included in national financial inclusion policies by supporting regulation and investment in infrastructure especially in underserved regions to have the most inclusive effect.

### Policy Implications

The result indicates that strengthening financial inclusion by enhancing the intention to use mobile banking can be done indirectly by ensuring the PU and PEU is better than before. Expansion of digital infrastructure which includes mobile network coverage, access to the internet and access to reliable electricity should therefore be of priority to the policymakers so that the mobile banking services can be made available in all regions. It is also vital to reinforce consumer protection, data privacy, and cybersecurity laws and regulations to allow growing the level of trust in mobile banking and, consequently, the perceived usefulness of digital financial services among users. Also, the high mediation effect indicates that facilitating user-friendly digital systems and enhancing digital literacy will help to a large degree improve adoption, which will lead to eventual financial inclusion.

## Conclusion

This research was intended to provide answers to some research questions on the impact of mobile banking technology to the extent of financial inclusion in Kathmandu. The findings affirm the hypothesis that PU has a significant indirect effect on FI through IMB, hence, when users consider the mobile banking application useful, they are likely to use it thus, improving the level of financial inclusion. Likewise, in the context of this research, PEU has a significant impact on the proposed mediator, IMB, which has a positive influence on FI, suggesting that the diminished usability barriers for interacting with mobile banking services enhance the intention for using these services to support the objective of financial inclusion among users. Mobile banking is the focus of these results and the very fact that perceived benefits and usability are crucial for engagement in this form of banking contribute to the overall goal of financial inclusion.

## Limitations and Future Research

The results suggest that a significant increase in financial inclusion is possible through enhancing the perceived usefulness and ease of use of mobile banking as it can increase the intention of most users to embrace the services. Nonetheless, the research is limited by some weaknesses like the methodological limitation and the removal of the variables that can be relevant in driving the identified associations like self-efficacy, facilitating conditions, and technology readiness. Moreover, the external environmental conditions such as regulatory systems and technological infrastructure were not adequately studied. Despite the difference between covariance-based SEM and partial least squares SEM, PLS-SEM proves beneficial in cases where CB-SEM requirements prove challenging to meet, such as formative constructs and non-normality of the data. Future studies can thus embrace the use of PLS-SEM in order to remove these limitations.

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## Conflict of Interest

"The authors declare no conflict of interest."

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