



Customers' Behavioural Intention Towards Internet Banking Usage in Kathmandu Valley

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Abstract

Background: The rapid advancement of information and communication technology has transformed the global banking industry. Internet banking has emerged as a significant innovation, enabling customers to conduct financial transactions conveniently without visiting physical bank branches. In developing countries like Nepal, the adoption of internet banking is increasing; however, usage remains relatively limited due to technological, infrastructural, and security-related concerns.

Purpose: The main concern of my study is access to customers' intention towards internet banking. Internet banking Usage is still an issue because of its complexities in adopting it from the technical as well as security perspective. This objective of my study is to determine the customers' behavioral intention towards internet banking usage in Kathmandu Valley.

Design/methodology/approach: Explanatory research design was adopted as the main research paradigm to discover reality. The Technological Acceptance Model is applied as a theory. The study area is Kathmandu Valley. The data was evaluated quantitatively by using both descriptive and inferential statistics. Questionnaire was designed to collect the data and were entered into a KOBO Toolbox. SEM was used to analyze the relationships from 379 responses.

Findings: The findings of the study show that major challenges were found to be internet connection problems and heavy network traffic for operating internet banking during pandemic. Government provisions or policies for the high internet service in Nepal could be the solution. Similarly, Perceived Ease of Use and Perceived Usefulness play a significant role in the behavioral intention towards internet banking. This finding gives theoretical relevance in terms of Technology Acceptance Model.

Conclusion: The scope and depth of this study are confined to internet banking users residing in Kathmandu Valley. Further studies should include other variables to better understand the underlying relationship between internet banking and its intention to use. Security and privacy issues can be explored further. Implication includes policy making that focuses on enhancing the internet banking experience further.

Key words: Internet Banking, Customers, Banks, Kathmandu Valley, Financial Literacy

1. Introduction

The rapid advancement of information and communication technology (ICT) has fundamentally transformed economic activities, organizational processes, and service delivery mechanisms across the globe (Bilan et al., 2023; Latupeirissa et al., 2024; Shan, 2026). Among these developments, the internet has emerged as one of the most influential innovations in modern communication, enabling the transmission of vast amounts of information within fractions of a second since the first email was sent in 1972 (Poster, 2011). The integration of ICT into business operations has reshaped how organizations conduct commercial transactions, interact with customers, and respond to market demands (Apulu & Latham, 2011). As a result, technology-driven service delivery has become a critical component of competitiveness in service-oriented industries, particularly in the banking sector.

In the banking industry, ICT adoption has facilitated the development of sophisticated, business-oriented information systems that support managerial functions such as planning, coordination, and control, while also enabling the introduction of innovative financial products and service channels (Matos et al., 2009). Banks increasingly rely on technology to enhance operational efficiency, reduce transaction costs, improve service quality, and expand customer reach (Mohammed & Ward, 2006). One of the most significant outcomes of this technological transformation is the emergence of alternative banking distribution channels, which have reduced dependence on traditional branch-based banking models (Madegowda, 2025).

Internet banking has gained prominence as a strategic delivery channel that allows customers to conduct banking transactions remotely through web-based platforms (Gopalakrishnan et al., 2003;). Defined as the use of the internet to provide transactional banking services, internet banking enables customers to perform activities such as balance inquiries, fund transfers, online bill payments, and account management without visiting a physical branch (González et al., 2008; Sandhu & Arora, 2020). From the banks' perspective, internet banking is considered one of the most cost-effective channels for standardized banking operations, significantly lowering operational and transaction costs compared to traditional banking channels (Polasik & Wiśniewski, 2009). Moreover, the availability of internet banking services on a 24/7 basis enhances customer convenience and supports greater flexibility in managing personal financial activities (Rotchanakitumnuai et al., 2003).

In developing economies, the adoption of internet banking presents both opportunities and challenges. While digital banking offers a means to enhance financial inclusion and service efficiency, limited awareness, digital literacy gaps, and trust-related concerns continue to hinder widespread adoption (Dasgupta et al., 2011). Nepal represents a relevant case in this context. As the first bank was established in 1937 A.D., Nepal's banking sector has evolved into a key component of the country's financial system, comprising commercial banks, development banks, and numerous financial institutions (IBN, 2023). Although Nepal is considered a late adopter of electronic banking technologies, recent years have witnessed notable progress in the integration of ICT into banking operations (Khatri & Upadhyaya, 2013).

Under the regulatory guidance of Nepal Rastra Bank (NRB), commercial banks have made significant investments in digital infrastructure, electronic payment systems, and centralized banking platforms to enhance service delivery and operational efficiency (NRB, 2020; Gautam & Devkota, 2021). Nevertheless, the adoption of internet banking in Nepal remains relatively low compared to other digital channels, particularly mobile banking. Statistical evidence indicates a substantial disparity between mobile banking and internet banking users, reflecting customer preference for mobile-based platforms and limited awareness of internet banking services (Mastran, 2021). Factors such as perceived security risks, lack of trust, inadequate promotion, and limited technical knowledge further constrain internet banking adoption in the Nepalese context (Jha, 2020).

Kathmandu Valley, as the economic and financial hub of Nepal, offers a suitable context for examining customers' behavioral intentions toward internet banking usage. Despite higher levels of digital exposure and better infrastructure compared to other regions, internet banking adoption in the valley has not reached its potential (Tan et al., 2020). Existing studies in Nepal have largely focused on electronic banking in general or mobile banking, leaving a research gap regarding internet banking-specific behavioral

intentions, challenges, and managerial implications. Moreover, limited attention has been given to factors such as social influence, perceived ease of use, perceived security, and institutional trust within the Nepalese setting (Ofori et al., 2017).

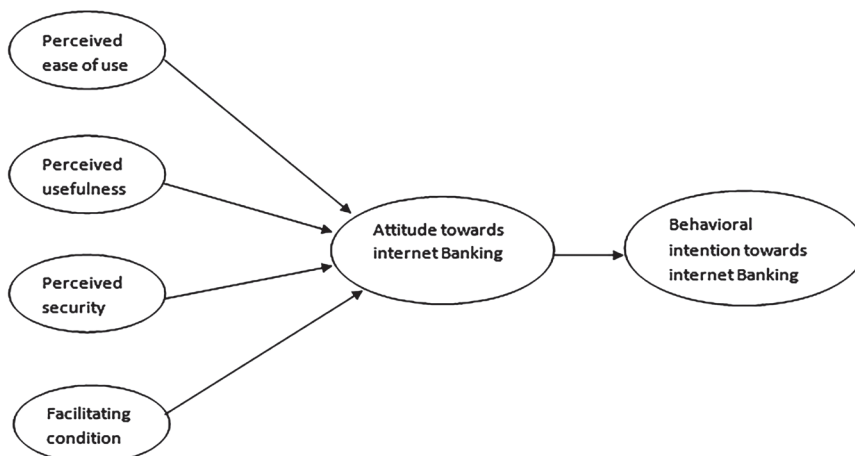
Therefore, this study seeks to address this gap by examining customers' behavioral intentions toward internet banking usage in Kathmandu Valley. By identifying the key challenges faced by users and proposing managerial solutions, the study aims to contribute to the existing literature and provide practical insights for banks and policymakers to promote effective adoption of internet banking services in Nepal.

2. Conceptual Framework and Hypothesis

The acceptance and continued usage of information technology (IT) systems have been widely examined through various theoretical perspectives, all of which aim to explain users' intention to use or continue using technology, albeit with different explanatory constructs (Martins et al., 2014). This study reviews four well-established theories relevant to internet banking adoption: Technology Continuance Theory (TCT), Theory of Planned Behavior (TPB), Technology Acceptance Model (TAM), and Expectation-Confirmation Theory (ECT). TCT emphasizes post-adoption behavior and explains continuance intention through constructs such as confirmation, perceived usefulness, perceived ease of use, satisfaction, and attitude, making it particularly relevant for analyzing sustained internet banking usage (Liao et al., 2009). TPB explains behavioral intention through attitude, subjective norms, and perceived behavioral control, and is useful for understanding the influence of social factors, trust, and users' perceived ability to perform internet banking transactions (Ajzen, 1991). TAM, one of the most widely applied models in information systems research, highlights perceived usefulness and perceived ease of use as the primary determinants of technology acceptance and has been extensively validated in internet banking studies (Davis, 1986; Lai & Li, 2005). ECT focuses on post-adoption behavior by examining how confirmation of expectations influences perceived usefulness, satisfaction, and continuance intention, which is critical for understanding users' long-term engagement with internet banking services (Rahi & Ghani, 2019).

Among the reviewed theories, this study primarily employs the Technology Acceptance Model (TAM) as the core theoretical framework due to its strong explanatory power and empirical relevance in examining internet banking adoption (Marakarkandy et al., 2017). TAM is supported by selected constructs from Technology Continuance Theory and Expectation-Confirmation Theory to capture post-adoption aspects such as satisfaction, confirmation, and continuance intention. Elements of Theory of Planned Behavior, particularly perceived behavioral control and social influence, are considered conceptually to contextualize users' confidence and external constraints in using internet banking. This integrated framework enables a comprehensive understanding of customers' behavioral intentions and challenges related to internet banking usage in the Nepalese context.

Figure 1: Conceptual Framework



Perceived Usefulness and attitude towards Internet Banking

"The degree to which a person believes that employing a particular system would increase his or her job performance," says the definition of perceived usefulness (Bertagnolli, 2011). According to Jahangir and Begum (2008) consumers' perceptions of the experience's outcome are referred to as perceived utility. Perceived usefulness refers to an individual's belief that using new technology will improve or boost her or his performance. It can also refer to a person's belief that a particular strategy will help him or her do better at work. One study made by Moslehpour et al. (2018) says that another factor that contributes to the perceived utility is the ease with which one virtual store may be compared to another virtual store. Customers' behavior is determined by how useful the technology is and how the new technology will improve or accelerate his or her performance. So, there is a very important relation between perceived usefulness and attitude towards technology.

H1: Perceived usefulness has a significant positive impact on attitude towards Internet Banking

Perceived Ease of Use and attitude towards Internet Banking

The degree to which a person believes that utilizing the system will need no mental work is referred to as perceived ease of use. End users' ideas about their ability to undertake the recommended act (i.e., self-efficacy) are boosted by perceived ease of use, which influences adoption (He et al., 2018). Internet services using behavior is related with how customers' can adopt the technology. According to Mutahar et al. (2018) To prevent the "under-used" helpful system problem, mobile banking and internet banking systems must be simple to understand and operate. Clients will be less hesitant to adopt IT applications if they are simple to use. Customers will likely to show their behavior if technology is not complex to use. According to (Namahoot & Laohavichien, 2018) Perceived Behavioral Control is a factor that helps people understand how they feel about utilizing technology. One study of (Featherman et al., 2010) says that E-service providers should think about the advantages of designing more user-friendly platforms and training customers on how to use them so that risks are reduced and intentions to use the e-service grow.

H2: Perceived Ease of use has a significant positive impact on attitude towards Internet Banking

Perceived Security and attitude towards Internet Banking

Consumers' judgment or perception of whether a system or service given by a corporation is secure enough for them to perform a transaction could be characterized or interpreted as perceived security (Wilson et al., 2021). Customers' opinions of the damages they can suffer as a result of using the service are known as risks. Electronic services are hindered by the possibility of losing personal information or transactions. Risks are related to security issues which influences the behavior of customers towards internet banking usage. According to (Rahi & Abd. Ghani, 2018) in order to increase users' confidence in using internet banking, banks should focus on new features and perceived security measures. One study of (Janahi, 2021) says individuals' willingness to apply for online services may be reduced due to security concerns ranging from personal information disclosure to money loss. According to (Normalini et al., 2019) customers tend to have a better trust in internet banking if higher level of security is believed to exist. So security and attitude towards technology has very important relationship

H3: Perceived security has a significant positive impact on customers' attitude towards Internet Banking.

Facilitating Condition and attitude towards Internet Banking

Facilitating Condition refers to external factors that support and enhance the adoption and uses of a particular technology. These conditions encompass various elements such as infrastructure, resources, technical supports, training programs, and accessibility to necessary tools. Facilitating Condition plays a crucial role in shaping individuals' behavioral intention to use technology. When these conditions are favorable, individuals perceive that they have the necessary resources and support to effectively use the technology, leading to increased confidence and reduced barriers to adoption. As a result, individuals are more likely to develop a positive intention to use the technology and exhibit higher motivation to engage with it. Numerous studies have investigated the impact of facilitating conditions on behavioral intention

to use technology. For instance, a study by Venkatesh et al. (2003) on the acceptance of information technology found that facilitating conditions significantly influenced individuals' behavioral intention to use technology. The study emphasized the importance of factors such as technical support, training, and ease of use in promoting individuals' intention to adopt and use technology. Similarly, research by Gefen and Straub (2000) in the context of e-commerce acceptance highlighted the significance of facilitating conditions, such as accessibility and system reliability, in shaping users' behavioral intention to engage in online transactions.

H3: Facilitating conditions has a significant positive impact on customers' attitude towards Internet Banking.

Attitude and Behavioral Intention to Use Internet Banking

Attitude refers to an individual's overall evaluation or perception of a particular technology. It encompasses their beliefs, feelings, and opinions about technology and its potential usefulness and benefits. Attitude plays a significant role in shaping an individual's behavioral intention to use technology. When individuals hold positive attitudes towards technology, they are more likely to perceive it as useful, enjoyable, and beneficial, which increases their motivation to adopt and use it.

Research in the field of technology acceptance, such as the Technology Acceptance Model (TAM), has consistently shown that attitude has a direct influence on behavioral intention to use technology. For example, a study by Davis (1989) on the acceptance of computer technology found that attitude towards using the technology significantly affected individuals' intention to use it. The study highlighted those individuals who had positive attitudes towards technology perceived it as more useful and were more inclined to adopt and use it. Research by Venkatesh and Davis (2000) extended the TAM to include the construct of perceived enjoyment, which captures the affective component of attitude. They found that both perceived usefulness and perceived enjoyment had a significant impact on individuals' intention to use technology. This indicates that not only practical benefits, but also emotional aspects of attitude can influence the behavioral intention to use technology. Positive attitudes, driven by perceived usefulness and enjoyment, are associated with higher behavioral intention to use technology.

H4: Attitude has a significant positive impact on customers' behavioral intentions to use internet banking services.

Behavioral Intention to Use Internet Banking

The degree to which a person has developed conscious plans on whether or not to do a given future behavior is behavioral intention (Chao, 2019). Customers' attitudes toward the use of new technology are often thought to have an impact on their behavioral intentions. Client satisfaction and service quality must be a prerequisite for customer behavior intentions (Iqbal et al., 2018). According to Chao (2019) users' behavioral intents to make mobile payments are influenced by characteristics such as self-efficacy, risk, trust, security, and attitude. According to one study made by Ajam and Nor (2013) acceptance of technology is required for consumers to use Internet banking, which can be difficult because it includes a behavioral pattern. Furthermore, some users may find internet technologies challenging to comprehend. Aside from that, clients must comprehend the complexity of financial services. At the same time, in order for people to adopt Internet banking, it must be compatible with their values, customs, and previous experiences. The combined influence of customers' perceptions of many elements may play a role in their acceptance of the intention to use internet banking. According to Davis (1989) who established TAM focused on a person's level of adoption of a technology and the factors that influence his or her acceptance or intention to utilize it. Users' adoption of information technology systems, according to TAM, is influenced by their intention to use the systems, which is influenced by their views about the system. The perceived usefulness (PU) and perceived ease of use (PE) of information technology systems influence users' views about them. Social influence and perceived security are the two additional variables that have impacts upon the behavioral intention towards internet banking usage.

H6: Attitude mediates the relation between perceived ease of use with behavioral intention to use Internet banking.

H7: Attitude mediates the relation between perceived usefulness with behavioral intention to use Internet banking.

H8: Attitude mediates the relation between Perceived Security with behavioral intention to use Internet banking.

H9: Attitude mediates the relation between Facilitating Condition with behavioral intention to use Internet banking.

3. Research Methods

This study adopts a post-positivist research philosophy, which assumes that reality exists but can only be partially understood due to human and contextual limitations (Devkota & Mahapatra, 2025; Aalam et al., 2025). This paradigm supports the use of scientific methods such as surveys and statistical analysis while allowing for cautious interpretation of latent constructs (Saunders et al., 2019; Bhatta et al., 2023). An explanatory research design is employed to examine the influence of attitude, subjective norms, and perceived behavioral control on Gen-Z's behavioral intention toward electoral participation in Nepal. Explanatory research is appropriate for testing theoretically grounded relationships and identifying associations among key variables (Fisher & Ziviani, 2004).

The study area is Kathmandu Valley, comprising Kathmandu, Lalitpur, and Bhaktapur districts, a major urban and financial hub with relatively high internet penetration (Mohanty, 2011; Ishtiaque et al., 2017). According to Nepal Rastra Bank (2021), 32.03% of account holders use mobile banking, 20.35% use ATMs, and 3.86% use internet banking, with usage highest in metropolitan areas of Bagmati Province. The target population consists of internet banking users in Kathmandu Valley. As their exact number is unknown, unknown population sampling is employed. As the exact number of internet banking users in Kathmandu Valley is unknown, a non-probability convenience sampling technique was adopted to select respondents who were accessible and actively using internet banking services (Etikan, 2016). The required sample size was determined using Cochran's formula for large or unknown populations, expressed as $n_0 = (Z^2 \times p \times q) / e^2$, where Z represents the standard normal value at the 95% confidence level (1.96), p is the estimated population proportion (0.50), q equals 1 - p (0.50), and e denotes the margin of error (0.05) (Devkota et al., 2023). Substituting these values yields $n_0 = 384.16$. After adding a 5% allowance for non-response (19.20), the final target sample size was 403. However, 397 valid responses were obtained and used for the final analysis.

This study employed a structured questionnaire as the primary research instrument to collect primary data on customers' behavioral intentions toward internet banking usage, as structured instruments enhance data validity and reliability (Wong, 2018). The questionnaire was designed using clear and unambiguous language and included both closed-ended and open-ended questions aligned with the study objectives. Data were collected using the KOBO Toolbox platform. Prior to full deployment, a pilot survey was conducted to ensure consistency and accuracy of the instrument. Based on Cochran's sample size estimation, data were collected from respondents over a three-week period, from 4 May to 29 May 2023, using face-to-face interactions, phone communication, social media platforms, and online distribution of the KOBO questionnaire.

Data analysis was conducted using both descriptive and inferential statistical techniques to address the study objectives (Oyedokun, 2019). Microsoft Excel was used for data entry, coding, and preliminary tabulation, while SmartPLS was employed for advanced analysis. Descriptive statistics were applied to summarize socio-demographic characteristics and general perceptions of internet banking users. Inferential analysis was carried out using partial least squares structural equation modeling (PLS-SEM) to examine relationships among latent variables, including measurement model assessment and structural model evaluation for hypothesis testing (Allua & Thompson, 2009; Marshall & Jonker, 2011).

4. Results

Socio-demographic Analysis

A total of 397 internet banking users from Kathmandu Valley (Kathmandu, Lalitpur, Bhaktapur) participated in the survey. Of these, 69.77% were male and 30.23% female, reflecting a higher male participation consistent with prior studies as men often perceive technology as a status symbol and are more influenced by the perceived usefulness of internet banking. The majority of respondents (46.36%) were aged 26–33 years, followed by 24.93% aged 34–41 years, indicating that younger, tech-savvy individuals form the main user base. Educationally, most respondents held a bachelor's degree (64.73%), followed by a master's degree or above (17.38%), showing that higher education correlates with greater adoption of internet banking. Professionally, 29.72% were employed in the private sector, 26.95% in government, and 18.14% in the industrial sector, while students and self-employed users accounted for smaller proportions, indicating higher usage among salaried individuals. Regarding income, 26.45% of respondents earned Rs 40,000–60,000 per month, followed by 21.66% earning Rs 20,000–40,000 and 21.16% earning Rs 60,000–80,000, suggesting that middle-income groups predominantly use internet banking. Overall, the results indicate that internet banking in Kathmandu Valley is primarily used by young, educated, middle-income males employed in formal sectors, aligning with global and regional studies on online banking adoption patterns.

Table 1: Demographic Characteristics of Respondents

| Title | Category | Number | Percentage |
|--------------------|--------------------------|--------|------------|
| Gender | Male | 277 | 69.77 |
| | Female | 120 | 30.23 |
| | Other | 0 | 0 |
| Age | 18-25 | 89 | 22.44 |
| | 26-33 | 184 | 46.36 |
| | 34-41 | 99 | 24.93 |
| | 42-49 | 21 | 5.2 |
| | 50 and above | 4 | 1.07 |
| Location | Kathmandu | 248 | 62.47 |
| | Lalitpur | 104 | 26.2 |
| | Bhaktapur | 45 | 11.34 |
| Level of education | SLC/SEE | 9 | 2.27 |
| | Plus two Level | 62 | 15.62 |
| | Bachelors' Degree | 257 | 64.73 |
| | Masters degree and above | 69 | 17.38 |
| Income (monthly) | Below 20K | 71 | 17.88 |
| | 20k - 40K | 86 | 21.66 |
| | 40k - 60K | 105 | 26.45 |
| | 60k - 80K | 84 | 21.16 |
| | 80k and above | 51 | 12.85 |
| Marital Status | Married | 204 | 51.39 |
| | Unmarried | 193 | 48.61 |
| | Others | 0 | 0 |

| | | | |
|------------|-------------------|-----|-------|
| Profession | Private Sector | 118 | 29.72 |
| | Government sector | 107 | 26.95 |
| | Industrial sector | 72 | 18.14 |
| | self employed | 48 | 12.09 |
| | Unemployed | 32 | 8.06 |
| | Student | 18 | 4.54 |
| | Other | 2 | 0.5 |

General understanding of Internet Banking

Advances in ICT have transformed banking, with internet banking offering benefits such as convenience, 24-hour access, time savings, better cash management, and reduced costs. In this study, 94.41% of 397 respondents were familiar with internet banking, while only 5.59% had no knowledge. Most users (81.62%) reported frequent usage, with common activities including checking balances, transferring funds, and paying bills. The main motivations for using internet banking were 24-hour availability (77.08%), time and effort savings (70.78%), no physical presence required (62.72%), high transaction limits (42%), secure transactions (32%), and lower transaction costs (23.32%). Regarding bank preference, 41.29% of respondents used Rastriya Banijya Bank, followed by Machhapuchchhre Bank (14.70%), NIC Asia Bank (5.73%), Nabil Bank (4.66%), Siddhartha Bank (4.30%), and other banks (28.32%). The COVID-19 pandemic further accelerated internet banking adoption in Nepal. In the past two years, 30.47% of users made payments below Rs 10,000 per month, 41.22% between Rs 10,001–50,000, 15.05% between Rs 50,001–100,000, 9.68% between Rs 100,001–500,000, and 3.58% between Rs 500,001–1,000,000. Thus, most users spend Rs 10,001–50,000 per month via internet banking.

Challenges of Internet Banking

Several questions were asked to understand the challenges faced by internet banking users in Kathmandu Valley. Out of 397 respondents, 242 acknowledged encountering difficulties while using internet banking. Multiple responses were allowed, revealing that the most common challenges were poor internet speed (78.92%) and heavy network traffic (77.27%). Other issues included fear of hackers or intruders (23.55%), concern about losing social interaction with bankers (19.83%), website malfunctions (12.40%), and privacy concerns (8.67%). These findings highlight key areas for banks to address to improve user experience and trust. Respondents were asked open-ended questions regarding solutions to the challenges of internet banking. Among 397 participants, 95.7% believed the barriers are manageable, while only 4.3% considered them unmanageable. To address connectivity issues, 52.43% suggested improving internet speed and bandwidth, while 43.07% recommended updating and upgrading technology, including new features and regular system monitoring. Technical problems such as server lags and site malfunctions should be resolved by technicians, according to 35.20% of users. Security measures, including encryption and strong IT policies, were highlighted by 32.58% and 27.12% of respondents, respectively. Additionally, 42.6% emphasized the importance of customer awareness campaigns. Only a small minority (12 respondents) felt challenges like hacking were uncontrollable due to reliance on traditional banking systems. Overall, respondents provided practical suggestions to enhance the internet banking experience in Kathmandu Valley.

Table 2: Challenges

| Factors | Number | Percentage |
|---------------------------------------------|--------|------------|
| Poor internet Speed | 191 | 78.92% |
| Heavy Network Traffic | 187 | 77.27% |
| Fear of Viruses to the system | 57 | 23.55% |
| Losing social relationship with the bankers | 48 | 19.83% |
| Fear of hackers | 31 | 12.80% |
| Internet sites malfunction | 30 | 12.40% |
| Privacy concerns | 21 | 8.68% |

Inferential Analysis

Common Method Bias

Common method bias (CMB) can artificially inflate correlations between variables measured using the same method (Podsakoff et al., 2003). In studies employing a single data collection approach, assessment options are limited, with Harman's single-factor test being commonly used (Gorrell et al., 2011). A study is generally considered free of CMB if the variance explained by a single factor is less than 50%. In this study, full collinearity tests were conducted, and the variance inflation factors (VIFs) for all latent variables were below 3.3 (Table 3). Since all VIFs are below this threshold, the model can be considered free from common method bias.

Table 3: Common Method Bias

| Construct | VIF |
|-----------|-------|
| ATIB | 1.064 |
| BI | 1.066 |
| FC | 1.032 |
| PEOU | 1.021 |
| PS | 1.006 |
| PU | 1.009 |

Measurement Model Assessment

The validity and reliability of the constructs were assessed using the measurement model (outer model) to examine how well the observed indicators represent their underlying latent constructs. Since the study employed a reflective measurement model, the evaluation focused on internal consistency reliability, convergent validity, and discriminant validity. Internal consistency reliability was examined to ensure that the indicators within each construct consistently measured the same concept. This was assessed using Cronbach's Alpha (CA) and Composite Reliability (CR). According to Izah et al. (2023), reliability values above 0.70 indicate strong reliability (Maharjan et al., 2025), while values above 0.60 are considered acceptable. As shown in Table 4, the CA and CR values for all constructs exceeded the recommended thresholds, confirming that internal consistency reliability was achieved.

Convergent validity was assessed to determine whether the indicators adequately reflected their respective constructs. Factor loadings (FL) and Average Variance Extracted (AVE) were used for this purpose. Hair et al. (2011) suggest that AVE values of 0.50 (Lawaju et al., 2023) or higher indicate acceptable convergent validity, while Sarstedt et al. (2019) recommend factor loadings above 0.70 for strong item reliability. The results show that the AVE values of all constructs exceeded 0.50 (see Table 4), and most indicator loadings were substantial, thereby confirming convergent validity. Discriminant validity was evaluated

to ensure empirical distinction among constructs using cross-loadings, the Fornell–Larcker criterion, and the Heterotrait–Monotrait Ratio (HTMT). The cross-loading results indicate that each indicator loaded higher on its respective construct than on others, satisfying the recommended condition (Ab Hamid et al., 2017). Furthermore, all HTMT values were below the conservative thresholds of 0.85 for conceptually distinct constructs and 0.90 for related constructs (see Table 5), as suggested by Yusuff et al. (2020), supporting discriminant validity. Finally, the Fornell–Larcker criterion was met, as the square root of the AVE for each construct was greater than its correlations with other constructs (see Table 6) (Fornell & Larcker, 1981). Overall, these results confirm that the measurement model satisfies all reliability and validity requirements, indicating that the constructs are robust and suitable for subsequent structural model analysis.

Table 3: Factor Loading, Average variance extracted, Cronbach's alpha, Composite reliability

| Construct | Items | Outer Loadings | Cronbach's Alpha | Composite Reliability (CR) | Average Variance Extracted (AVE) |
|-----------|-------|----------------|------------------|----------------------------|----------------------------------|
| ATIB | ATIB1 | 0.729 | 0.554 | 0.77 | 0.528 |
| | ATIB2 | 0.761 | | | |
| | ATIB4 | 0.688 | | | |
| BI | BI1 | 0.74 | 0.628 | 0.801 | 0.573 |
| | BI3 | 0.767 | | | |
| | BI5 | 0.763 | | | |
| FC | FC1 | 0.871 | 0.708 | 0.818 | 0.603 |
| | FC3 | 0.756 | | | |
| | FC5 | 0.691 | | | |
| PEOU | PEOU1 | 0.824 | 0.683 | 0.8 | 0.507 |
| | PEOU2 | 0.65 | | | |
| | PEOU3 | 0.539 | | | |
| | PEOU4 | 0.798 | | | |
| PS | PS1 | 0.763 | 0.781 | 0.849 | 0.531 |
| | PS2 | 0.745 | | | |
| | PS3 | 0.731 | | | |
| | PS4 | 0.608 | | | |
| | PS5 | 0.784 | | | |
| PU | PU1 | 0.768 | 0.651 | 0.811 | 0.588 |
| | PU3 | 0.782 | | | |
| | PU5 | 0.75 | | | |

Table 5: Heterotrait- Monotrait Ratio (HTMT) Results

| | ATIB | BI | FC | PEOU | PS | PU |
|------|-------|-------|-------|-------|-------|----|
| ATIB | | | | | | |
| BI | 0.538 | | | | | |
| FC | 0.546 | 0.77 | | | | |
| PEOU | 0.808 | 0.231 | 0.229 | | | |
| PS | 0.542 | 0.676 | 0.729 | 0.274 | | |
| PU | 0.718 | 0.73 | 0.659 | 0.442 | 0.644 | |

Table 6: Fornell- Larcker Criterion Results

| | ATIB | BI | FC | PEOU | PS | PU |
|------|-------|-------|-------|-------|-------|-------|
| ATIB | 0.727 | | | | | |
| BI | 0.316 | 0.757 | | | | |
| FC | 0.389 | 0.512 | 0.776 | | | |
| PEOU | 0.538 | 0.161 | 0.176 | 0.712 | | |
| PS | 0.372 | 0.475 | 0.564 | 0.224 | 0.729 | |
| PU | 0.437 | 0.466 | 0.468 | 0.314 | 0.464 | 0.767 |

Structural Model Assessment

The structural model assessment was conducted to evaluate the model's explanatory power by examining the amount of variance explained in the dependent (endogenous) variables. The key criteria used to assess the structural model include the coefficient of determination (R^2) and the path coefficients. The R^2 value indicates the predictive accuracy of the model by showing the proportion of variance in the endogenous constructs explained by the exogenous constructs (Hair et al., 2017). According to Henseler et al. (2009) and Hair et al. (2011), R^2 values of 0.75, 0.50, and 0.25 represent substantial, moderate, and weak explanatory power, respectively. The structural model shows that Attitude towards Internet Banking (ATIB) has an R^2 of 0.412, indicating that 41.2% of its variance is moderately explained by perceived ease of use, perceived usefulness, perceived security, and facilitating conditions. Among these, perceived ease of use has the strongest and most significant effect on attitude ($\beta = 0.430, p < 0.001$), followed by facilitating conditions ($\beta = 0.179, p < 0.001$) and perceived usefulness ($\beta = 0.174, p = 0.001$), while perceived security is insignificant ($\beta = 0.094, p = 0.075$). Behavioral Intention shows an R^2 of 0.100, suggesting weak explanatory power, but attitude significantly influences intention to use internet banking ($\beta = 0.316, p < 0.001$). Overall, the model explains attitudes better than behavioral intention, with ease of use emerging as the key driver.

Figure 3: Path Coefficient

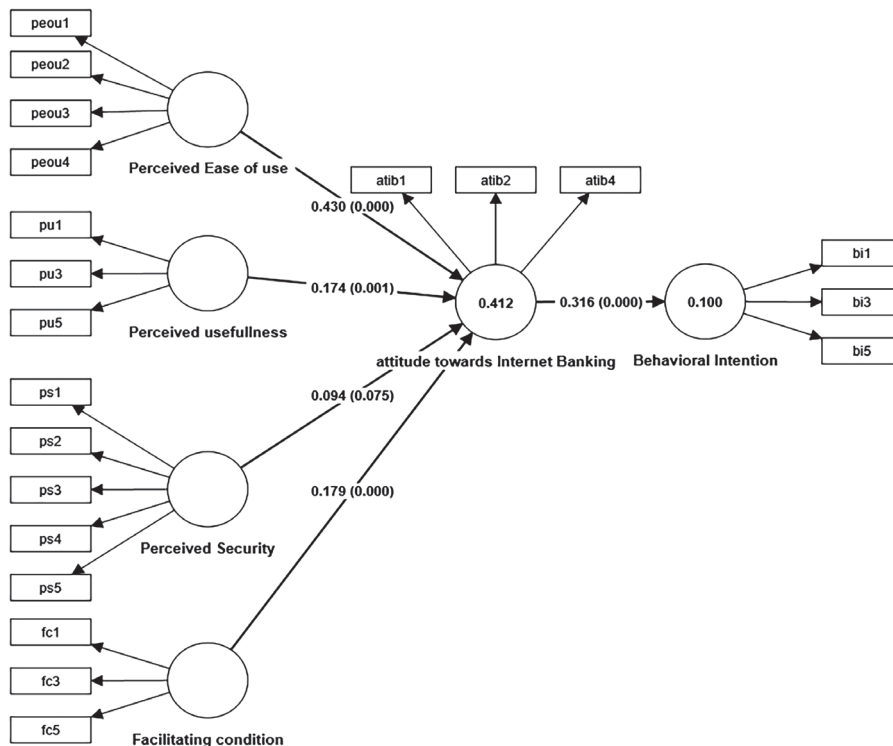


Table7: Hypothesis Test Results

| Construct | Hypothesis | Beta | P Values | 2.50% | 97.50% | Remarks |
|--------------|------------|-------|----------|-------|--------|---------------|
| PU -> ATIB | H1 | 0.174 | 0.001 | 0.074 | 0.27 | Supported |
| PEOU -> ATIB | H2 | 0.43 | 0.000 | 0.327 | 0.521 | Supported |
| PS -> ATIB | H3 | 0.094 | 0.075 | -0.02 | 0.189 | Not supported |
| FC -> ATIB | H4 | 0.179 | 0.000 | 0.079 | 0.281 | Supported |
| ATIB -> BI | H5 | 0.316 | 0.000 | 0.194 | 0.42 | Supported |

Note: We use 95% confidence interval with a bootstrapping of 10,000.

The reports on the path coefficients, the standard errors, t-values, and p-values for the structural model using a 10,000-sample re-sample bootstrapping procedure, as recommended by Hair et al. (2019). Based on Hahn and Ang's (2017) criticism that p-values are a poor criterion for determining the significance of a hypothesis and their recommendation to employ a combination of criteria including p-values, confidence intervals, and effect sizes. The results of a study on the relationship between perceived ease of use (PEOU), Perceived Usefulness (PU), Perceived security (PS), facilitating Conditions (FC) and Attitude towards Internet Banking (ATIB) and behavioral intention (BI) of peoples in the Kathmandu Valley are presented in the above table. The study tested five hypotheses. With the help of beta coefficients, p-values, and confidence intervals. A beta coefficient of 0.174 and a confidence interval of 0.074 to 0.27 were used to support the first hypothesis (H1), which stated that Perceived usefulness (PU) positively affects attitude towards internet banking. Furthermore, supported by a beta coefficient of 0.43 and a confidence interval ranging from 0.327 to 0.521 was the second hypothesis (H2), which claimed that Perceived ease of use (PEOU) positively affects attitude towards internet banking. With a beta coefficient of 0.094 and a confidence range ranging from -0.02 to 0.189, the third hypothesis (H3), which does not support that perceived security (PS) have a positive impact on attitude towards internet banking. With a beta coefficient of 0.179 and a confidence range ranging from 0.079 to 0.281, the fourth hypothesis (H4), which claimed that Facilitating conditions have a positive impact on attitude towards internet banking, was supported. With a beta coefficient of 0.316 and a confidence range ranging from 0.14 to 0.42, the fifth hypothesis (H5), which claimed that attitude towards internet banking positively impact on Behavioral intention towards internet banking, was not supported.

Table 7: Mediation Analysis

| Path | β | P values | LL | UL | Decision |
|-------------------------|---------|----------|--------|-------|---------------|
| PEOU -> ATIB -> BI (H6) | 0.136 | 0.000 | 0.088 | 0.183 | Supported |
| PU -> ATIB -> BIN (H7) | 0.055 | 0.011 | 0.02 | 0.103 | Supported |
| PS -> ATIB -> BI (H8) | 0.03 | 0.127 | -0.005 | 0.069 | Not Supported |
| FC -> ATIB -> BI (H9) | 0.057 | 0.005 | 0.023 | 0.102 | Supported |

To test the mediation hypotheses, researcher followed the suggestions of Preacher and Hayes (2008) by bootstrapping the indirect effect. If the confidence interval does not straddle a 0 then we can conclude that there is significant mediation. Preacher and Hayes (2008) P values are frequently used by researchers in mediation analysis to assess the statistical significance of the indirect effect. The indirect effect is deemed statistically significant if the P value is less than a particular threshold. The indirect impact is not regarded as statistically significant, though, if the P value exceeds the threshold. The P value for the indirect effect for the first mediation path PEOU > ATIB > BI (H6) is 0, which is lower than the usual level of significance (i.e., 0.05). This claim about PEOU on BI through ATIB is supported. In other words, the mediator variable ATIB supports its role in this dataset as a mediator of the influence of PEOU on BI. The P value for the indirect effect for the second mediation path PU > ATIB > BIN (H7) is 0.011, which is

less than the level of significance (i.e., 0.05). This claim about PU on BI through ATIB is supported. In other words, the mediator variable ATIB supports its role in this dataset as a mediator. The P value for the indirect effect for the third mediation path $PS > ATIB > BI$ (H8) is 0.127, which is greater than the level of significance (i.e., 0.05). This claim about PS on BI through ATIB is not supported. In other words, the mediator variable ATIB does not support its role in this dataset as a mediator. The P value for the indirect effect for the fourth mediation path $FC > ATIB > BI$ (H9) is 0, which is less than the level of significance (i.e., 0.05). This claim about FC on BI through ATIB is supported. In other words, the mediator variable ATIB supports its role in this dataset as a mediator.

5. Discussion

The reliability and Validity test were used to build and test the link between the variables in this investigation. Four out of five hypotheses are significant. One hypothesis in our study are considered to be insignificant which represents that there might be some loophole in my research. It might be due to the flaw in research design. It might be due to the sample size taken were not sufficient enough to conduct the research or the other things might not be appropriate such as the questionnaire pattern as well as the respondents opinions towards my questions might not be veracious. However the two hypotheses were significant.

Perceived Usefulness and Perceived Ease of Use of use have a positive impact on behavioral intention to use internet banking, according to supported hypothesis 1 and 2. The study of (Patel & Patel, 2018; Sharma et al., 2015) also provided the same consequences. According to the hypothesis 1 people who believed that the tasks like Bill payments, fund transfer, viewing the statements and so on can be done more quickly and conveniently have the substantial effect on the behavioral intention to use internet banking. To avoid becoming infected with the Corona virus, people work and study from home and limit their external interactions. As a result of the condition, the community's lifestyle must alter, and internet outlets are preferred (Iriani & Andjarwati, 2020). Customers who visit branches phase believe that doing so will force them to stand in line for a long time and enhance their chances of receiving, therefore they believe that starting internet banking is preferable (Naeem & Ozuem, 2021). One study made by (Guriting & Oly Ndubisi, 2006) also says that there is significant impact of Perceived Usefulness on online banking adoption intention.

User friendly interface, easy to become skilled in operating the system, easiness in all the functions of the internet banking comes under the Perceived Ease of Use. The study made by (Guriting & Oly NduBisi, 2006; Giovanis et al., 2012) also says that there is significant impact of Perceived Ease of Use and intention towards the use of internet banking. Customers can access their accounts at any time of day or night via internet banking. Internet banking also eliminates the anxiety associated with handling actual currency, lowers transaction costs, saves time, and provides for immediate access from any location also comes under the Perceived Ease of Use (Maqbool Ahmad, 2018).

The hypothesis 3 says that the perceived security has insignificant impact on the behavioral intention towards internet banking. Security concerns might not totally affect the internet banking behavior of the people (Khatri & Upadhyaya-Dhungel, 2013). During pandemic internet banking is only the option since physical travel was risky. People find the internet banking trustworthy and secured. One study of (Damghanian et al., 2016) also concludes in his study that customers' adoption of internet banking was not influenced by their perception of security. The rejected hypothesis 4 states that the social influence has insignificant impact on the behavioral intention towards internet banking usage.

The authors went to great attempts to increase the sample size and go deeper into the variables. Regardless, there are several faults in the research. Because it had to be completed in a short amount of time to achieve a degree requirement, the study was limited to a particular area. More research is needed on this topic in various parts of the country to gain a better grasp of how local people feel about it. This study solely employed a questionnaire survey approach; however, in addition to these surveys, a few in-

depth interviews or focused group discussions could have aided in determining the underlying cause of perceived good and negative impacts, satisfaction, and participation in internet banking activities. Studies should focus on the multiple implications on the country as a whole in order to better grasp the extent of internet banking. It had a detrimental impact on the banking industry from 2021 to 2023. It is important to consider how internet banking users react in terms of perceived impacts, support for internet banking intentions to use, platform trust, and people's involvement in internet banking in the digital era.

6. Conclusion

The primary goal of this study is to assess customers' behavioral intentions regarding internet banking in Kathmandu Valley. The research also has specific goals, including Factors affecting internet banking uses in Kathmandu Valley, analyzing the challenges and obstacles of internet banking among internet banking user's in Kathmandu Valley and then suggesting the managerial solutions to the challenges of internet banking in Kathmandu Valley.

A theoretical review reveals that numerous ideas coming from the field of internet banking, as well as consumers' behavioral intentions to use it, have been related to the notion of Internet Banking to give solid theoretical knowledge. Because of rising financial worries, technical challenges, and digital inclusiveness, many countries are paying attention to Internet Banking practices. This empirical research has given us valuable insights on how to grasp internet banking in various parts of the country. Concerns have been raised about the function of internet banking and its impact on human behavior, according to the studies. My study looked at the impact of various factors on Internet Banking behavior by examining the conceptual relationships between independent variables (Perceived Usefulness, Perceived Ease of Use, Perceived Security, and facilitating conditions), mediating variable (attitude towards internet banking) and the dependent variable (Behavioral Intention to Use Internet Banking). Convenience Data was acquired from online banking customers in the Kathmandu Valley using a sampling method, while primary data was collected using a structured questionnaire and interviews. In addition, a variety of analytical methodologies were used to thoroughly inspect and analyze the study data, including descriptive and inferential analysis using the Structured Equation Model (SEM).

According to the findings of the study, perceived usefulness, perceived ease of use and facilitating conditions has significant impact on attitude towards internet banking. However, perceived security has no significant relationship with attitude towards internet banking. Similarly, it is found that attitude towards internet banking has significant relationship with behavioral intention towards internet banking. Additionally, it is found that attitude to use plays significant mediating role for perceived usefulness, perceived ease of use and facilitating conditions in relation to behavioral intention to use internet banking. However, attitude towards internet banking does not play mediating role for perceived security in relation to behavioral intention to use internet banking.

Likewise, internet banking users would experience some challenges while using the services through web channels. The major challenges expressed were poor internet speed through ISP followed by heavy network traffic, fear of intruders to the system, loosing social relationship with the bankers, internet sites malfunction and others. Further, the most respondent also believe that these challenges can be overcome. Therefore, to overcome these challenges the seamless connectivity of internet is required. Further, upgradation of IT infrastructure and overall system is also must. Additionally, other managerial solution would be to provide timely technical assistant to end users, increase in awareness campaign, and implementation of strong IT policies and incorporating of additional security features to the IB system.

In addition to above, several recommendations were made to make internet banking more effective and secure for end users. First and foremost, effective government and organizational policies should be established for strong IT polices from regulatory body. Mass awareness campaign is needed among users to educate about digital literacy programs. Further, user-friendliness of the system, reduction of server

issues, proper trainings to IT and security personnel will certainly add to betterment of IB functionality. However, further change is required before individuals and banks can make the huge leap toward ensuring online banking efficiency in all of their activities.

Overall, IB is a good platform which serves great utility to users for their financial solution at one place. It provides real time information and ability to make payment instantly at any place and time zone. However, few challenges also exist for the same. These challenges can be dealt tactfully with the help of above recommendations and suggestions to make IB more secure, reliable and users oriented.

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