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Factors Affecting the Internet Banking Adoption in Kathmandu Valley

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Abstract

In the rapid evolution of digital technology, the adoption of internet banking has become a crucial component of modern banking services. This paradigm shift towards digitization necessitates understanding the factors influencing internet banking adoption. This study aims to promote extensive adoption of internet banking in the Kathmandu Valley, encouraging financial inclusion and technological advancement in the region. This study examined factors influencing internet banking adoption among SMEs using an explanatory research design and the TAM theory, testing seven hypotheses. Data were gathered from 280 SMEs using a structured questionnaire administered through Kobo Toolbox and analyzed with Partial Least Squares Structural Equation Modeling (PLS-SEM) version 4.0. The results indicate that perceived usefulness, ease of use, and risk significantly impact the intention to use internet banking. Perceived usefulness serves as a mediator between ease of use and subjective norm, influencing their impact on the intention to use. The key challenges identified include system errors, security concerns, trust issues, lack of innovativeness, limited technology access, and awareness gaps. The study suggests the importance of user education, interface simplification, personalization, and enhanced user support to improve secure online transactions.

Keywords: Innovativeness, internet banking, intention to use, perceived ease of use, perceived risk

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Introduction

Internet banking has grown rapidly in many countries, and it has changed how traditional banking works. Traditional banks are now offering internet banking services to lower costs, improve customer service, retain customers, and gain a larger market share. Internet banking leads to more profitable and loyal customers compared to traditional banking methods. In recent times, banks consider the internet channel just as important as their branches, ATMs, telephone banking, and call centers (Balkan, 2021). Internet banking has significantly increased in recent years as more people and companies take advantage of the accessibility and convenience that online financial services provide. Technological advancements have played a crucial role in driving the growth of online banking. People are now more likely to access online banking services while on the road thanks to the widespread use of smart phones and reasonably priced data plans. The users can now conduct financial transactions; check balances, and manages accounts whenever and wherever they choose using their mobile devices or desktops, which has increased convenience and flexibility (Chennai et al., 2021). Customers can conduct transactions and access their accounts from anywhere, eliminating the need to visit a bank branch in person. This flexibility is ideal for those with busy schedules, limited mobility, or in remote areas with restricted banking access. The availability of additional services, such as loans, investments, and personalized financial advice, has been a major factor in promoting the use of internet banking. Due to the convenience of having all these services in one place, online banking has gained immense popularity.

Likewise, the COVID-19 pandemic has further accelerated the use of online banking. (Jin et al., 2021). Customers opted to online banking as their main method of handling their accounts since traditional bank branches were temporarily closed or had capacity restrictions. The epidemic brought to light the value and advantages of digital banking, spurring a sharp increase in its uptake. It's crucial to understand that there are still access restrictions, such as poor internet connectivity, issues with digital literacy, and individual preferences for conventional banking practices. To assure the ongoing growth of internet banking, financial institutions are investing in digital infrastructure and customer-focused online banking services (Baftijari & Hebibi, 2022).

Dependable technological infrastructure, including internet connectivity, access to devices, and user-friendly tools, influences the adoption of internet banking. (Li et al., 2021). Meanwhile, the crucial aspects of security and trust are addressed through strong measures like encryption and multi-factor authentication to ensure the protection of personal and financial information. Internet banking enables customers to access financial services whenever and wherever they choose, without being constrained by physical branch locations or regular banking hours which makes financial management and transactions easier and time-saving (Olabimtan, 2022). The usage of internet banking tools and applications varies depending on the specific banking needs of individuals or businesses (Chaimaa et al., 2021).

While several studies have looked at the influence of age, gender, income, and education on the adoption of internet banking, more in-depth analyses are required to fully understand

these correlations (Arif et al., 2020). Furthermore, given that attitudes and views regarding technology and banking may change greatly among regions and countries, it is important to investigate the effect of cultural and socioeconomic elements in such contexts. Moreover, there has been limited research on how customer service and quality influence the adoption of internet banking, including the significance of personalized assistance, online chat features, and customer satisfaction. These gaps will help us gain a more complete picture of the elements that affect the adoption of internet banking and can help us develop methods to boost adoption rates. The choice to use internet banking, meaning the utilization of online banking services by individuals, is driven by several factors. Independent variables are the elements that influence or determine this decision, while dependent variables represent the outcomes or impacts of using internet banking. The adoption of internet banking is strongly influenced by technology literacy and digital skills, including comfort with technology, basic digital knowledge, and prior experience. (Abima et al., 2021). The independent factor that affects the adoption of internet banking is the issue of security and trust. Users must have faith in the security procedures used by banks and other financial organizations to safeguard their private information. Strong authentication procedures, reliable encryption techniques, and proactive fraud prevention strategies all contribute significantly to building trust and promoting the uptake of online banking. Online transactions, account management, and 24/7 accessibility are just a few of the time- and convenience-saving benefits that encourage people to switch to internet banking as a more convenient option than traditional banking (Anene & Okeji, 2021)..

The adoption of internet banking is influenced by a number of factors. Convenience is important because clients prefer being able to access their accounts and conduct transactions whenever and wherever they choose, without being restricted to visiting a physical branch (Haralayya, 2021). Consumers must feel confident that their personal and financial information is safeguarded against cyber threats. Hence, the security and reliability of online banking systems are critical factors in building this confidence. The user's level of technological expertise, the availability of dependable internet infrastructure, and the perception of the utility of online banking services in satisfying their financial demands are other elements that influence the adoption choice (Mujahed et al., 2022). Financial institutions can better comprehend and respond to clients' concerns by taking into account these aspects, which will ultimately encourage the broad use of internet banking (Shams et al., 2020)

Literature Review

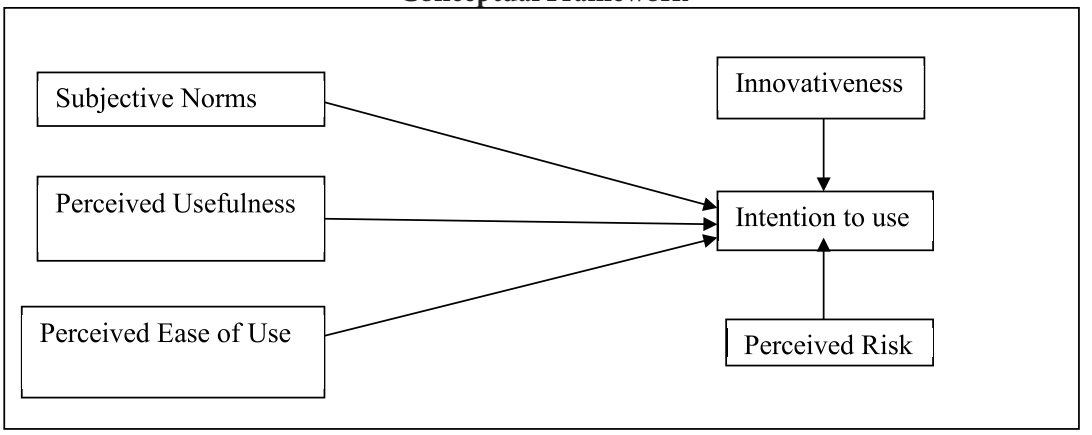
Conceptual Framework

Internet banking adoption decision is influenced by multidisciplinary fields and is mostly influenced by theories from several disciplines such as Transformative Predictive Acceptance. Likewise, for a better understanding and analyzing behaviors linked to our research topic, concepts from several theories such as Social Cognitive Theory (Schurz et al., 2021), Theory of planned behavior and Technology Acceptance model Theory were explicitly reviewed. According to the theory of planned behavior to anticipate and understand people's intentions and subsequent use of online banking services (Anser et al., 2020). Similarly, Technology

Acceptance Model Theory determining whether users are willing to adopt and use internet banking services (Ahmad et al., 2020).

This study has combined the ideas from Technology Acceptance Model Theory to create a comprehensive and integrated framework (Siagian et al., 2022). TAM focuses on users' perceptions of usefulness and usability, which are important determinants of their technology adoption decisions and subsequent usage. Its simplicity makes it a useful option for researching the uptake of internet banking, and its empirical basis offers solid information for developing strategies that will effectively encourage uptake and usage. The following framework was draw, based on the existing literature and the technology acceptance model theory.

Figure 1
Conceptual Framework



Note. Alhassany and Faisal (2018)

The figure 1 explains about determinants that enhance intention to use have a favorable impact on a person's desire to adopt and use a specific good, service, or technology. It consists of six variables that are mentioned namely: perceived usefulness, subjective norms, perceived ease of use, perceived risk, innovativeness, and intention to use. In this framework intention to use is explained as dependent variable whereas perceived risk, perceived ease of use, subjective norms and innovativeness are used as independent variable, while perceived usefulness is used as mediating variable.

Personal Innovativeness

Personal innovativeness is the peoples willing to use and adopt new technologies and innovative things (Setiawan et al., 2021). Intension use is the individual perception or willingness to adopt the technology, product and services. According to Ho et al. (2020) there is a significant relationship between personal innovativeness and intension to use.

H1*: Personal Innovativeness significantly affects customers' intention to adopt internet banking services.*

Subjective Norms

Subjective norms involve an individual's perception of social pressure or expectations from others concerning specific behaviors or beliefs, or norms, and the individual's willingness to conform to those expectations (Ho et al., 2020). There is a significant relationship between subjective norms and intention to use (Penggunaan & Internet, 2020).

H2*: Subjective norm significantly affects customers' intention to adopt internet banking services.*

Perceived Usefulness

Perceived usefulness is an individual's subjective assessment of how a product, service, or technology can improve their performance or offer practical benefits.(Wasiq et al., 2022). Similarly, (Farahmand et al., 2021). The perceived usefulness factor involves believing that adopting internet banking improves productivity and performance. According to Rahi, Khan, et al. (2021) there is a significant relationship between perceived usefulness and intention to use.

H3*: Perceived Usefulness significantly affects customers' intention to adopt internet banking services.*

Perceived Ease of Use

Perceived ease of use is how easy someone believes a product, service, or technology is to use. (Purwati et al., 2020). It involves assessing elements like user-friendliness, simplicity, and interactivity. According to Ahmad et al. (2020) there is a significant relationship between perceived ease of use and intention to use.

H4*: Perceived ease of significantly affects customers' intention to adopt internet banking services.*

Perceived Risk

Perceived risk involves an individual's evaluation of the potential negative outcomes or uncertainties associated with a decision or situation. (Sharma et al., 2020). Similarly, in the study conducted by Arif et al. (2020), Perceived risk reflects the uncertainty about the negative consequences of using internet banking, including the issues that may discourage customers from adopting these services. Iskandar et al. (2020), found a negative relationship between perceived risk and the intention to use.

H5*: Perceived risk significantly affects customers' intention to adopt internet banking services.*

Mediating Role of Perceived Usefulness

perceived usefulness of a product, service, or technology based on their subjective evaluation of its ability to provide benefits, value, and meet their specific needs and objectives. Prastiawan et al. (2021) . Similarly, it represents users' belief that adopting internet services will enhance their productivity and performance efficiency.

H6*: Perceived Usefulness factors mediate the relationship between perceived ease of use and customer intension to adopt internet banking services*

H7*: Perceived Usefulness factor mediates the relationship between subjective norm and customer intention to adopt internet banking services.*

Research Methods

Sample and Procedures

The study was anchored in positivist philosophy and utilized an explanatory research design to explore the causal relationships between the study variables. Kathmandu Valley was selected as the research site due to its ideal conditions for reliable data collection. This choice was influenced by several factors, including high mobile penetration rates, extensive social media use, well-developed infrastructure, access to funding opportunities, business development services, digital marketing expertise, and supportive government initiatives.

A convenience sampling method was employed using a sample size calculator and the formula n = (Z^2 * pq) / e^2, with a 50% population proportion, a 6% margin of error, and a 95% confidence level, the required sample size was determined to be 280 respondents. Data were collected through a structured questionnaire with closed-ended questions on internet banking issues. The questionnaire was carefully structured, organized, and sequenced before being distributed via Kobo Toolbox. Both physical copies and digital versions of the questionnaire were disseminated through platforms such as Email, Viber, WhatsApp, and LinkedIn. A pilot survey with 10 respondents was conducted to validate the reliability and accuracy of the questionnaire before the full data collection.

Variables and their Definition

This section outlines the variables utilized in the study. A total of four items were selected to measure personal innovativeness, perceived usefulness, subjective norms, and perceived ease of use, respectively. Each variable was assessed using a 5-point Likert scale, with responses ranging from 1 ("strongly disagree") to 5 ("strongly agree"). The items were adapted and modified to suit the specific context of the research, ensuring relevance and clarity in the responses gathered.

Table 1
Variables and their Definition

Construct	Observed Variables	Variable notation	Explanation
Personal innovations	Aiming for immersion	INN_1	Aiming for total immersion in fresh IT experience.
	Technology pioneer	INN_2	Pioneer in implementing state-of-the-art information technology.
	Technological exploration.	INN_3	Ardently experimenting while exploring the limitless potential of technology.
	Cutting-edge innovations.	INN_4	Continually stay informed about cutting-edge innovations.
Perceived usefulness	Financial Empowerment	PU_1	Enhance financial control for improved management.
	Easy login	PU_2	Streamlined access to personal accounts made easy
	Digital Banking	PU_3	Automated banking procedures to boost productivity.
	Optimal Banking	PU_4	Maximizing the effectiveness of banking services.
Subjective norms	Opinion value	SN_1	Obtaining reliable advice to make decisions.
	Advice Impact	SN_2	Influence from advice shapes behavioral decisions.
	Experiential wisdom	SN_3	Gaining knowledge by sharing life's experiences.
	Powerful influencers.	SN_4	Positive role models shape public opinion.
Perceived ease of use	Quickly assimilating.	PEOU_1	Effortless learning, quick adaptation, and smooth development.
	Seamless comfort	PEOU_2	A comfortable and secure online banking environment.
	Intuitive design.	PEOU_3	User-friendly interface with simple navigation.
	Convenient transactions	PEOU_4	Manage your finances safely and conveniently online.

Results and Analysis

Socio Demographic Analysis

This study focuses on the customers of banks in the Kathmandu Valley that have undergone mergers and acquisitions. Among the respondents, 56.23% are male, and 43.77% are female. The majority, accounting for 66.55%, are married, with 33.45% being unmarried. In terms of age distribution, 36.3% fall in the 18-29 range, 58.01% in the 30-39 range, and 5.69% in the 40-49 range. The study also emphasizes the impact of education on internet banking adoption. About, 46.98% of respondents hold Bachelor's degrees, 20.28% possess Master's degrees or higher, and 25.27% have completed high school while only a smaller percentage have completed SEE/SLC, and have education levels below SEE/SLC.

The adoption of internet banking is strongly influenced by occupation. Business professionals make up the largest user group (40.57%), whereas students, government employees, engineering, health, and teaching professions make up a smaller portion of the user base. Likewise, in terms of income level, 39.68% make between Rs. 20,000 and Rs. 40,000 per month, with 22.42% falling into the other category, reluctant to disclose their income level. Similarly, there is also notable representation in the income brackets of Rs. 40,000 to Rs. 60,000 (12.46%), Rs. 80,000 to Rs. 100,000 (10.68%), and between Rs. 60,000 and Rs. 80,000 (8.54%). Furthermore, 6.54% make between Rs. 60,000 and Rs. 80,000, and 6.05% make less than Rs. 20,000. Therefore, according to the data, there is a significant middle-class population, with a noteworthy percentage having higher incomes (See Table 2).

Table 2
Socio-Demographic Analysis

Title	Category	Number	Percentage (%)
Gender	Male	158	56.23
	Female	123	43.77
Marital Status	Married	187	66.55
	Unmarried	94	33.45
Age	18-29	102	36.3
	30-39	163	58.01
	40-49	16	5.69
Education Level	Bachelor	132	46.98
	Intermediate	71	25.27
	Master	57	20.28
	SLC/SEE	18	6.41
	Above Masters	1	0.36
	Below SLC/SEE	2	0.71

Profession	Business	114	40.57
	Others	53	18.86
	Teaching	38	13.52
	Government services	22	7.83
	Engineering	20	7.12
	Health personnel	19	6.76
	Student	15	5.34
Family Types	Nuclear Family	240	85.41
	Joint Family	40	14.23
	Others	1	0.36
Monthly Income Level	20000 to 40000	112	39.68
	Others	63	22.42
	40000-60000	35	12.46
	80000-100000	30	10.68
	60000-80000	24	8.54
	Below 20000	17	6.05

Note. Survey Data (2024)

General Understanding on Internet Banking Adoption

This section evaluates Kathmandu Valley user's knowledge of internet banking services, examining familiarity, usage frequency, application, and benefits. Similarly, various perspectives on mobile banking and its benefits are also explored in this study. The majority of respondents (48.4%) have used internet banking for 3 to 5 years, indicating a steady increase in adoption. The most often used service is fund transfers, with a daily utilization rate of 69.04 percent followed by mobile top-up (89.32%) and QR code payments (89.32%) respectively. Similarly, digital payment platforms like Fonepay, eSewa, and Khalti are utilized by 90.04% of respondents whereas routine transactions include account balance inquiry (96.44%), mini/full statement requests (95.02%), and bill payments (90.75%). Hence, internet banking is rated as being both highly significant (51.25%) and easy (84.7%) by respondents (See Table 3).

Table 3
General Understanding on Internet Banking Adoption

S. N	Variables	Explanation	Frequency	Percentage
1.	Have you ever used internet banking service	Yes	281	100
2.	How long have you been using Internet banking services?	Less than a year	18	6.41
		1-2 years	118	41.99
		3-5 years	136	48.4
		Above 5 years	9	3.2
3.	How often do you use Internet banking services	Daily	194	69.04
		Few days in a week	67	23.84
		Few days in a month	19	6.76
		Weekly	1	0.36
4.	What type of Internet banking services do you use	Account Balance Enquiry	271	96.44
		Fone pay, Load e sewa Khalti Wallets	253	90.04
		Fund Transfers	276	98.22
		Mini/Full Statement Request	267	95.02
		QR Code Payment	251	89.32
		Bill Payments	255	90.75
		Mobile Top up /Recharge Cards	251	89.32
		Others	3	1.07
5.	How easy does it makes for you to conduct transactions through Internet banking	Extremely easy	24	8.54
		Less easy	19	6.76
		Easy	238	84.7
6.	How important is it for you to have an availability of Internet banking services?	Very important	144	51.25
		Important	137	48.75

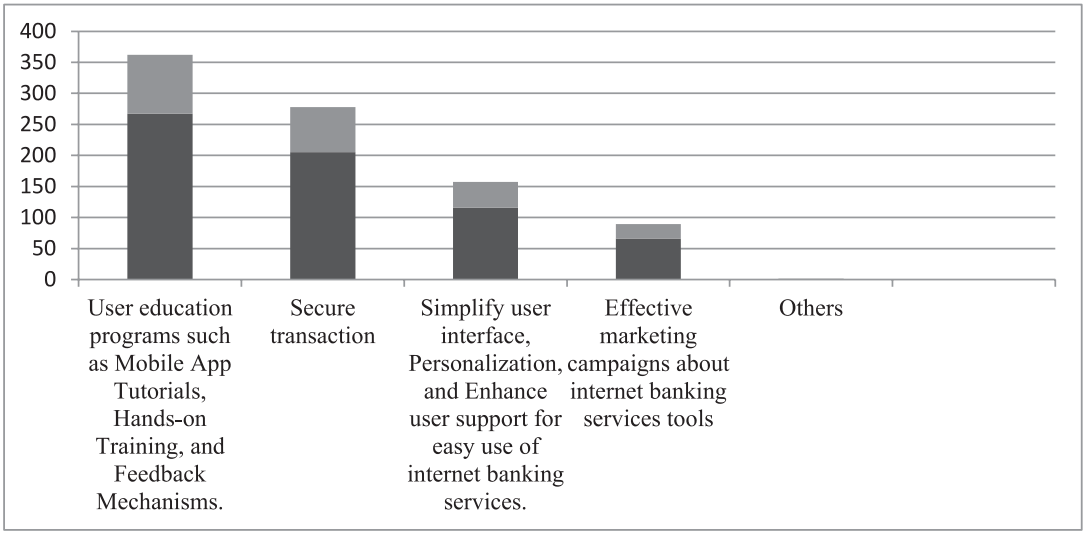
Note. Researcher's Calculation from Field Study (2024)

Challenges of Merger and Acquisition and Managerial Implications

This study discusses on challenges faced in adopting and using internet banking services in Kathmandu Valley. The key challenges include system errors/server downtime (95.37%), concerns about security and privacy (57.65%), and a lack of trust in service providers (47.33%) whereas other challenges include perceived lack of innovativeness (33.81%), limited access to reliable internet connectivity and technology (30.96%), and a general lack of awareness about

internet banking tools (26.33%). Such diverse perspectives on challenges in internet banking adoption is shown in the figure (See Figure 2).

Figure 2
Factors for Managing Challenges of Internet Banking



Note. Researcher's Calculation from Field Study (2024)

Despite numerous challenges, respondents believed problems can be overcome through user education programs, including mobile app tutorials, hands-on training, and feedback mechanisms, secure online transactions and enhanced security measures. Moreover, 41.28% of respondents recommended personalizing, streamlining user interfaces, and enhancing user assistance for convenient online banking. Additionally, according to 23.49% of respondents, there should be more effective marketing campaigns on internet banking services tools to increase awareness.

Inferential Analysis

According to Chatfield (1995), inferential analysis aims to determine the outcome from sample data from numerous statical tests, determine the relationship with the variables, assess differences, and produce forecasts. This includes path analysis, measurement models, and structural models.

Measurement Model Results

The validity and reliability of the constructs, the measurement model is evaluated. Even though Cronbach's alpha evaluations are now a common research procedure, the outer model was assessed by evaluating the internal consistency through composite reliability. According to Tavakol and Dennick (2011), it typically offers a conservative assessment in PLS-SEM. The use of composite reliability as a replacement has been suggested in earlier literature (Jr. et al., 2017). Taking into account that all composite reliability values are >0.7, which indicates an acceptable level of internal consistency.

Table 4
Reliability and Validity

Coding	Latent Variables and Items	Loadings	AVE	CR	Cronbach's Alpha
INN	Personal innovations				
INN_1	Aiming for immersion	0.801			
INN_2	Technology pioneer	0.654			
INN_3	Technological exploration.	0.788	0.6	0.856	0.777
INN_4	Cutting-edge innovations.	0.842			
PU	Perceived Usefulness				
PU_1	Financial Empowerment	0.814			
PU_2	Easy login	0.712			
PU_3	Digital Banking	0.771	0.583	0.875	0.823
PU_4	Optimal Banking	0.788			
SN	Subjective Norms				
SN_1	Opinion value	0.723			
SN_2	Advice Impact	0.717			
SN_3	Experiential wisdom	0.711	0.508	0.838	0.758
SN_4	Powerful influencers.	0.677			
SN_5	Product Knowledge	0.733			
PE	Perceived Ease of Use				
PE_1	Quickly assimilating.	0.76			
PE_2	Seamless comfort	0.686			
PE_3	Intuitive design.	0.717	0.539	0.875	0.83
PE_4	Convenient transactions	0.741			
IU	Intention To Use				
IU_1	Upcoming adoption	0.814			
IU _2	Expectation	0.712	0.583	0.875	0.82
IU _3	Future usage	0.771			
IU_4	Advocate Online Banking	0.788			
IU_5	Future Discontinuation	0.727			
PR	Perceived Risk				
PR_1	Performance, Credit.	0.844			
PR_2	Performance Issues	0.837			
PR_3	Financial Risk	0.815	0.691	0.918	0.888
PR_4	Security concerns	0.809			
PR_5	Security Concerns	0.85			

Note. Researcher's Calculation from Field Study (2024)

The study ensures reliability and validity by using composite reliability and average variance with thresholds of 0.7 and 0.5, respectively. Convergent validity is verified through average

variance extracted (AVE), confirming the correlation among constructs. A study's convergent validity is considered satisfactory if its AVE value is greater than 0.5. However, certain item constructs were excluded to attain the requisite AVE threshold, ensuring validity in the model.

Discriminant validity ensures that latent constructs are distinct from one another. This is evaluated using the Fornell-Larcker criterion (Ab Hamid et al., 2017), which is satisfied when the square root of each construct's AVE exceeds its correlations with other constructs. Additional measures include the cross-loading technique and the Heterotrait-Monotrait (HTMT) ratio, with thresholds of 0.85 or less (Henseler et al., 2015) or 0.90 (Kock, 2022). In this study, both HTMT and Fornell-Larcker criteria were met, confirming discriminant validity.

Table 5
Heterotrait -Monotrait Ratio (HTMT)

	INN	**IU**	**PE**	**PR**	**PU**	**SN**	**INN**	**IU**	**PE**	**PR**	**PU**	**SN**
INN							0.775					
IU	**0.46**4						0.375	0.764				
PE	0.675	**0.823**					0.545	0.678	0.734			
PR	0.08	0.464	**0.336**				0.035	0.401	0.288	0.831		
PU	0.751	0.684	0.863	**0.225**			0.611	0.563	0.718	0.193	0.734	
SN	0.776	0.642	0.847	0.137	**0.841**		0.587	0.512	0.675	0.11	0.673	0.713

Note. Researcher's Calculation from Field Study (2024)

Discriminant validity was further verified through cross loadings, which assess whether an item predominantly loads onto its intended construct rather than others. In this study, all items had higher factor loadings on their respective constructs compared to other constructs. Moreover, there are no cross-loading issues, as the cross-loading values with other constructs were below 0.7 (Kamis, 2021).

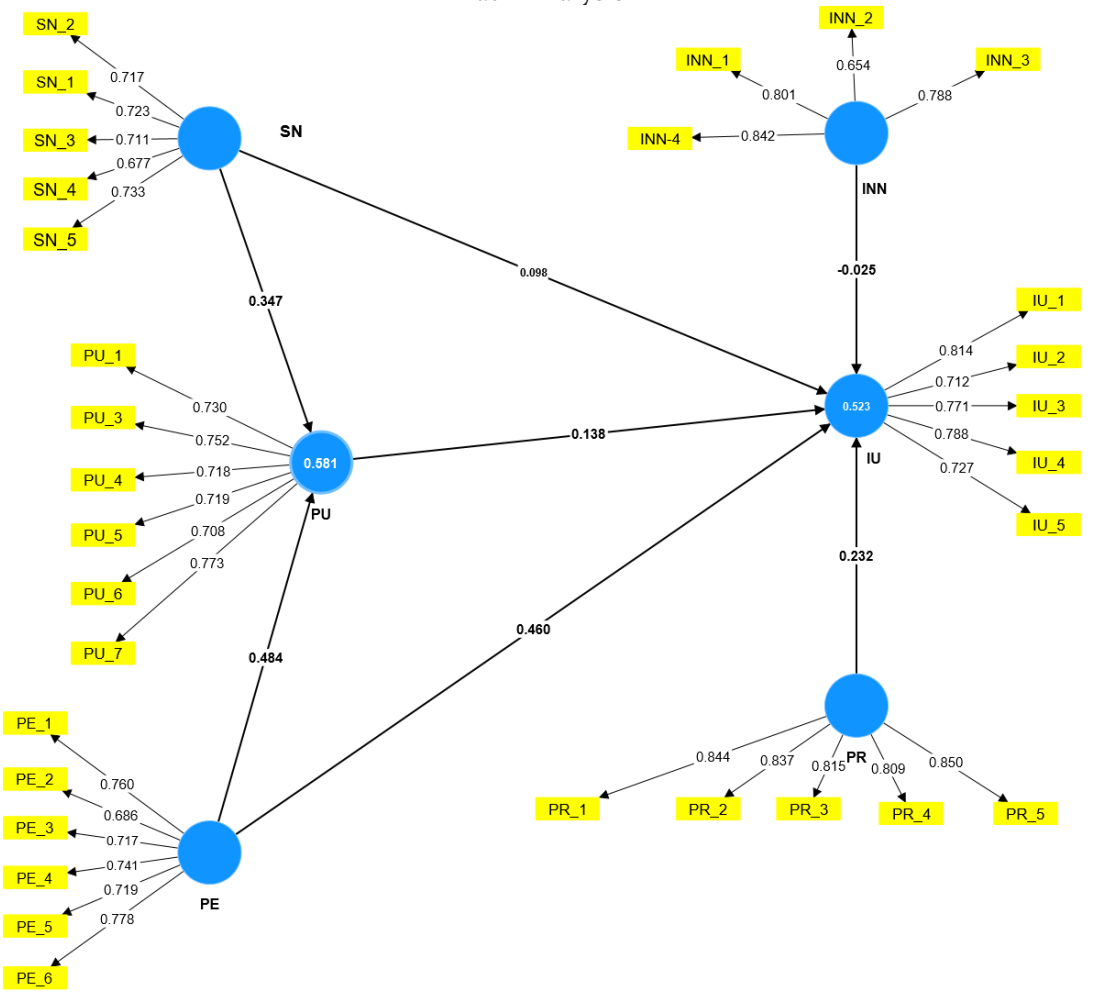
Structural Model Analysis

Structural Model Analysis demonstrates the causal relationships between measured and latent variables both graphically and through structural equations that define their interactions (Li et al., 2006). In Partial Least Squares Structural Equation Modeling (PLS-SEM), it is crucial to assess collinearity, commonly using the Variance Inflation Factor (VIF). Ideally, VIF values should be below thresholds of 3.33, 5, or 10 to avoid multicollinearity issues. This study confirmed that no multicollinearity issues were present.

Path Analysis

Path analysis extends the multiple regression model by allowing researchers to test the fit of a causal model through the correlation matrix. It evaluates the strength and significance of proposed causal links between variables through path diagrams, which visually depict the theoretically proposed relationships among different sets of variables (Stage et al., 2004).

Figure 3
Path Analysis



Note. Researcher's Calculation from Field Study (2024)

Figure 3 presents the path coefficients and R^2 value for the structural model. The R^2 value reflects the model's predictive capability, indicating how well the exogenous variables account for the variance in the endogenous variable (Jr. et al., 2017). R^2 values range from 0 to 1, with higher values signifying greater explanatory power. According to Henseler et al. (2015), R^2

values of 0.75, 0.50, and 0.25 are categorized as strong, moderate, and weak, respectively.

The calculation explains 48.5% in perceived usefulness, 34.7% in subjective norms, 46% in perceived ease of use, 23.2% perceived risk, only 2.5% in innovativeness, and 52.3 % in intention to use. Thus, we consider the model to be satisfactory in explaining the variation in the endogenous variable.

Table 6
Hypothesis Testing

				Confidence Interval (95%)		
Structural Path	Beta Coefficient (b)	SD	t-value	LLCI	ULCI	Conclusion
H1: INN→IU	-0.025	0.057	0.439	-0.134	0.094	Not Supported
H2: SN→IU	0.098	0.068	1.448	-0.034	0.234	Not Supported
H3: PU→IU	0.138	0.066	2.104	0.005	0.26	Supported
H4: PE→IU	0.46	0.067	6.835	0.326	0.591	Supported
H5: PR→IU	0.232	0.039	5.948	0.156	0.309	Supported

Note. Researcher's Calculation from Field Study (2024)

Mediation Analysis

Mediation analysis evaluates indirect relationships by incorporating a mediator variable to determine if the mediating effect fully or partially explains the link between the detected variables (Nitzl et al., 2016). The research employs mediation analysis to evaluate the significance of the impact between independent and dependent variables. This analysis reveals both direct and indirect effects within the model. The study finds a significant mediation relationship for both hypotheses: PE → PU → IU and SN → PU → IU.

Table 7
Mediation Analysis

		Confidence Interval (95%)		
Structural Path	**Beta Coefficient (b)**	**LLCI**	**ULCI**	**Conclusion**
H6: PE→PU→ IU	*0.1*	*0.056*	*0.152*	*Supported*
H7: SN→PU→ IU	0.145	0.082	0.212	Supported

Note. Researcher's Calculation from Field Study (2024)

Discussions

The study examines factors influencing internet banking adoption in Kathmandu Valley, focusing on how perceived ease of use, perceived risk, subjective norms, and innovativeness (independent variables) relate to internet banking adoption, with perceived usefulness serving as a mediating variable. Seven hypotheses were formulated, of which five (H3, H4, H5,

H6, H7) were found to be statistically significant.

Hypothesis 3 revealed a significant positive relationship between perceived usefulness and the intention to adopt internet banking. Hypotheses 4 and 5 further identified a strong positive association between the intention to use and both perceived ease of use and perceived risk. Additionally, perceived usefulness was shown to mediate the relationship between perceived ease of use and intention to adopt internet banking. The study also found that subjective norms positively influence the intention to adopt internet banking, with perceived usefulness acting as a mediator.

These findings highlight that the perceived usefulness of internet banking plays a crucial role, not only in directly shaping users' intentions but also in mediating other factors like ease of use and subjective norms. This suggests that efforts to enhance the perceived benefits of internet banking could lead to greater adoption by influencing users' perceptions and reducing perceived risks.

Conclusion

This study explores a deeper understanding of factors influencing Internet banking adoption. The result indicates a male majority among the customers in the Kathmandu Valley, with a significant portion being married. The majority of respondents showed a higher inclination toward adopting digital payment platforms and internet banking. The study revealed a significant positive relationship between higher educational attainment and the adoption of sophisticated financial technologies which indicates that individuals with higher levels of education are more likely to embrace and utilize advanced digital banking solutions.

Moreover, the findings highlighted a broad utilization of Internet banking services across diverse occupational backgrounds, with business professionals making up the majority of users. In terms of income, a significant portion of respondents falls within the middle-income bracket. The findings highlight a strong adoption and familiarity with Internet banking services over the past 3 to 5 years, which signifies a growing reliance on digital platforms for financial management. Fund transfers, QR code payments, and mobile top-ups emerged as the preferred services, emphasizing convenience and efficiency in everyday transactions, making everyday transactions quicker and easier for users. These services simplify the process of moving money, paying for goods and services, and recharging mobile balances, reflecting a trend toward streamlined and user-friendly financial solutions. Digital payment platforms like Fone Pay, eSewa, and Khalti are widely used for bill payments and account inquiries, highlighting their integral role in modern financial practices. These insights point towards a significant trend of digitalization in financial services, promoting accessibility and convenience across diverse income groups while enhancing financial inclusion.

Internet banking users encounter challenges like system errors, security concerns, trust issues, and limited technology access. In this study, respondents opined a strong preference for user education, particularly through mobile app tutorials and hands-on training. The study highlighted the importance of these initiatives in enhancing secure transactions and improving

user experience, advocating for simplified interfaces and enhanced support mechanisms. This study has significant implications for various stakeholders, including individuals, financial institutions, businesses, and the overall economy. The findings offer policymakers insights to create regulations that enhance the safety and accessibility of online banking. Financial institutions can tailor their services to better meet customer preferences identified. Technology providers have opportunities to innovate by improving user interfaces and expanding service offerings whereas researchers can use this data to explore the societal impacts of digital financial behaviors. The collaboration among these stakeholders can drive advancements in digital financial services, ensuring they are inclusive and efficient for all users.

References

Abima, B., Engotoit, B., Kituyi, G. M., Kyeyune, R., & Koyola, M. (2021). Relevant local content, social influence, digital literacy, and attitude toward the use of digital technologies by women in Uganda. *Gender, Technology and Development*, *25*(1), 87–111. https://doi.org/10.1080/09718524.2020.1830337

Ahmad, S., Bhatti, S. H., & Hwang, Y. (2020). E-service quality and actual use of e-banking: Explanation through the technology acceptance model. *Information Development*, *36*(4), 503–519. https://doi.org/10.1177/0266666919871611

Alhassany, H., & Faisal, F. (2018). Factors influencing the internet banking adoption decision in North Cyprus: An evidence from the partial least square approach of the structural equation modeling. *Financial Innovation*, *4*(1), 1-21. https://doi.org/10.1186/s40854-018-01113

Anene, I. A., & Okeji, C. C. (2021). Awareness, acceptance and usage of mobile banking services by academic librarians in Nigeria. *Library Philosophy and Practice 2021*, *1*(1), 1–28.

Anser, M. K., Zaigham, G. H. K., Imran Rasheed, M., Pitafi, A. H., Iqbal, J., & Luqman, A. (2020). Social media usage and individuals' intentions toward adopting Bitcoin: The role of the theory of planned behavior and perceived risk. *International Journal of Communication Systems*, *33*(17), 1–16. https://doi.org/10.1002/dac.4590

Arif, I., Aslam, W., & Hwang, Y. (2020). Barriers in adoption of internet banking: A structural equation modeling - neural network approach. *Technology in Society*, *61*(1), 101231. https://doi.org/10.1016/j.techsoc.2020.101231

Baftijari, A., & Hebibi, L. (2022). Trends in transforming business banking. *Economic Vission*, *9*(17), 11–22.

Balkan, B. (2021). Impacts of digitalization on banks and banking. *The Impact of Artificial Intelligence on Governance, Economics and Finance.1*(1) 33–50. https://doi.org/10.1007/978-981-33-6811-8_3

Chaimaa, B., Najib, E., & Rachid, H. (2021). E-banking overview: Concepts, challenges and solutions. *Wireless Personal Communications*, *117*, 1059-1078.

Chatfield, C. (1995). Model uncertainty, data mining and statistical inference. *Journal of the Royal Statistical Society. Series A (Statistics in Society)*, *158*(3), 419–466. https://www.jstor.org/stable/2983440

Chennai, T., Entrepreneur, B. R., & Technology, M. S. (2021). Customer satisfaction of M-commerce. *Ilkogretim Online-Elementary Education Online*, *20*(1), 5089–5100. https://doi.org/10.17051/ilkonline.2021.01.543

Haralayya, B. (2021). How digital banking has brought innovative products and services to India. *Journal of Advanced Research in Quality Control and Management*, *6*(1), 16–18. https://www.researchgate.net/publication/352681606

Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the Academy of Marketing Science,* 43(1), 115–135. https://doi.org/10.1007/s11747- 014-0403-8

Ho, J. C., Wu, C. G., Lee, C. S., & Pham, T. T. T. (2020). Factors affecting the behavioral intention to adopt mobile banking: An international comparison. *Technology in Society*, *63*(1), 101360. https://doi.org/10.1016/j.techsoc.2020.101360

Iskandar, M., Hartoyo, H., & Hermadi, I. (2020). Analysis of factors affecting behavioral intention and use of behavioral of mobile banking using unified theory of acceptance and use of technology 2 model approach. *International Review of Management and Marketing*, *10*(2), 41–49. https://doi.org/10.32479/irmm.9292

Jin, Q., Raza, S. H., Yousaf, M., Zaman, U., & Siang, J. M. L. D. (2021). Can communication strategies combat covid-19 vaccine hesitancy with trade-off between public service messages and public skepticism? Experimental evidence from Pakistan. *Vaccines*, *9*(7), 1–22. https://doi.org/10.3390/vaccines9070757

Jr., J. F. H., Matthews, L. M., Matthews, R. L., & Sarstedt, M. (2017). PLS-SEM or CB-SEM: Updated guidelines on which method to use. *International Journal of Multivariate Data Analysis*, *1*(2), 107. https://doi.org/10.1504/ijmda.2017.087624

Kamis, A. (2021). The SmartPLS analyzes approach in validity and reliability of graduate marketability instrument. *Turkish Journal of Computer and Mathematics Education (TURCOMAT)*, *12*(3), 829–841. https://doi.org/10.17762/turcomat.v12i3.791

Kock, N. (2022). Contributing to the success of PLS in SEM: An action research perspective. *Communications of the Association for Information Systems*, *47*(1), 555–563. https://doi.org/10.17705/1CAIS.05233

Li, F., Lu, H., Hou, M., Cui, K., & Darbandi, M. (2021). Customer satisfaction with bank services: The role of cloud services, security, e-learning and service quality. *Technology in*

Society, *64*(1), 101487. https://doi.org/10.1016/j.techsoc.2020.101487

Mujahed, H. M. H., Musa Ahmed, E., & Samikon, S. A. (2022). Factors influencing Palestinian small and medium enterprises intention to adopt mobile banking. *Journal of Science and Technology Policy Management*, *13*(3), 561–584. https://doi.org/10.1108/JSTPM-05-2020-0090

Nitzl, C., Roldan, J. L., & Cepeda, G. (2016). Mediation analysis in partial least squares path modelling, helping researchers discuss more sophisticated models. *Industrial Management and Data Systems*, 116(9), 1849–1864. https://doi.org/10.1108/IMDS- 072015-0302

Olabimtan, A. J. (2022). *Electronic Banking Channels, Products Innovation and Customer Satisfaction Among Deposit Money Bank's Customers in Kwara State, Nigeria* (Master's thesis, Kwara State University (Nigeria).

Penggunaan, M., & Internet, P. (2020). Factors affecting the internet banking adoption. *Jurnal Ekonomi Malaysia*, *54*(3), 117–131. https://doi.org/10.17576/jem-2020-5403-9

Prastiawan, D. I., Aisjah, S., & Rofiaty, R. (2021). The effect of perceived usefulness, perceived ease of use, and social influence on the use of mobile banking through the mediation of attitude toward use. *Asia Pacific Management and Business Application*, *9*(3), 243–260. https://doi.org/10.21776/ub.apmba.2021.009.03.4

Purwati, A. A., Libara, F., & Hamzah, M. L. (2020). An analysis of customer intention in using internet banking. *International Journal of Economics Development Research (IJEDR)*, *1*(2), 177–185. https://doi.org/10.37385/ijedr.v1i2.70

Rahi, S., Khan, M. M., & Alghizzawi, M. (2021). Extension of technology continuance theory (TCT) with task technology fit (TTF) in the context of internet banking user continuance intention. *International Journal of Quality and Reliability Management*, *38*(4), 986–1004. https://doi.org/10.1108/IJQRM-03-2020-0074

Schurz, M., Radua, J., Tholen, M. G., Maliske, L., Margulies, D. S., Mars, R. B., Sallet, J., & Kanske, P. (2021). Toward a hierarchical model of social cognition: A neuroimaging meta-analysis and integrative review of empathy and theory of mind. *Psychological Bulletin*, *147*(3), 293–327. https://doi.org/10.1037/bul0000303

Setiawan, B., Nugraha, D. P., Irawan, A., Nathan, R. J., & Zoltan, Z. (2021). User innovativeness and fintech adoption in indonesia. *Journal of Open Innovation: Technology, Market, and Complexity*, *7*(3), 188. https://doi.org/10.3390/joitmc7030188

Shams, G., Rehman, M. A., Samad, S., & Oikarinen, E. L. (2020). Exploring customer's mobile banking experiences and expectations among generations X, Y and Z. *Journal of Financial Services Marketing*, *25*(1), 1–13. https://doi.org/10.1057/s41264-020-00071-z

Sharma, R., Singh, G., & Sharma, S. (2020). Modelling internet banking adoption in Fiji: A developing country perspective. *International Journal of Information Management*, *53*(1), 102116. https://doi.org/10.1016/j.ijinfomgt.2020.102116

Siagian, H., Tarigan, Z. J. H., Basana, S. R., & Basuki, R. (2022). The effect of perceived security, perceived ease of use, and perceived usefulness on consumer behavioral intention through trust in digital payment platform. *International Journal of Data and Network Science*, *6*(3), 861–874. https://doi.org/10.5267/j.ijdns.2022.2.010

Stage, F. K., Carter, H. C., & Nora, A. (2004). Path analysis: An introduction and analysis of a decade of research. *The journal of educational research*, *98*(1), 5-13.

Tavakol, M., & Dennick, R. (2011). Making sense of Cronbach's alpha. *International Journal of Medical Education*, *2*(1), 53–55. https://doi.org/10.5116/ijme.4dfb.8dfd

Timsina, N. P., Shrestha, A., Poudel, D. P., & Upadhyaya, R. (2020). Trend of urban growth in Nepal with a focus in Kathmandu Valley: A review of processes and drivers of change.

Wasiq, S., Othman, M., & Abdullah, Z. S. (2022). Factors affecting customers' adoption of internet banking in Afghanistan. *2022 10th International Conference on Cyber and IT Service Management, CITSM 2022*, *9*(1), 4–7. https://doi.org/10.1109/CITSM56380.2022.9935999