Adoption of Mobile Wallets in Nepal: Examining the Influence of Trust and the Mediating Role of Security and Privacy

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Abstract

Purpose: This study investigates the impact of trust on the intention of using mobile financial services, focusing on mobile payment platforms. It also explores how security and privacy mediates this relationship.

Methodology: A quantitative research approach was employed, utilizing a structured questionnaire to collect data from 384 respondents. The data were analyzed using Structural Equation Modeling (SEM) to test the hypothesized relationships between trust, security, privacy, and the intention to use the mobile payment platform.

Findings: The results indicate that trust significantly influences users' intention to adopt the mobile payment platform whereas security and privacy concerns play crucial mediating roles. The SEM analysis confirmed that the model fit indices were within acceptable ranges, supporting the robustness of the proposed model.

Implications: For service providers, enhancing security and privacy features is essential for fostering trust and encouraging user adoption of mobile financial services, and it can be a key driver in the growth of digital finance.

Originality/Value: The study contributes to the literature on digital finance by highlighting the intertwined roles of trust, security, and privacy in shaping consumer behavior, offering insights for both academia and industry practitioners.

Introduction

Digital payments have transformed the global transaction landscape by providing a streamlined, efficient, and secure means of transferring funds (Rathore, 2016). As technology continues to evolve, digital payment systems have gained widespread adoption, offering various methods such as online banking, mobile wallets, and contactless payments (Chaudhry et al., 2020). Amid the COVID – 19 pandemics, the use of alternative method of payments other than cash became mandatory in a way, and thus gave a rapid spike in the use of digital payment methods in Nepal. Key components of digital payments include payment gateways, which facilitate the transaction process between buyers and sellers; digital wallets, which securely store users' payment information for quick access; and encryption technologies that safeguard the security and privacy of transactions (Kaur et al., 2020). The growing use of digital payment systems is driven by the demand for convenience, speed, and the ongoing digitization of economies worldwide. Consequently, digital payments have played a significant role in reducing cash dependency and enhancing financial inclusion, particularly in developing markets (Chaudhry et al., 2020).

An e-wallet is a digital service provided by various banks to facilitate secure monetary transactions, aiming to enhance people's quality of life (Hidajat & Lutfiyah, 2022). Similarly, Yong Lee et al. (2021) describes the usefulness of digital money or e-wallets as the way individuals utilize them for everyday purchases. Additionally, Rahayu & Prasetyatama (2021) explain that e-wallet risks involve challenges related to digital transactions when buying goods and services in the marketplace. Furthermore, impulsive buying occurs when individuals make unplanned purchases without prior intention (Lee et al., 2022).

E-payment is defined differently by several academics. E-payment has been defined as the transfer of money or payment by a person to another person via electronic channels such as mobile banking, wallets, internet banking that person accesses using information communication technology (Teoh et. al., 2013). Similarly, Peter and Babatunde (2012) defined an e-payment system as a form of transferring funds or monies via the internet or other digital or electronic medium. In another paper by Kaur and Pathak (2015) defined e-payment system as a payment method carried out using electronic medium or environment where the payment is transferred electronically from the payer to payee.

People's working habits and the way payments and financial transactions are managed have changed because of the recent technological upheaval, especially in the payment industry. As stated by Altounjy et al. (2020), latest technologies and e-trades have been viewed vital to performance, while mobile devices have emerged as the preferred technology that the public look to enhance and advance their goals in both their personal and professional lives. These devices have also been integrated into digital payment methods (Nathan et al., 2019). Electronic payment transaction may occur between the parties that are not physically present in the same location since it is easier to carry out and faster as well (Hsu et al., 2015). According to Muangmee et al. (2021) the most popular digital payment methods are cash register checkpoint used in most of the superstores and other stores where cards or other means of payments are used to make the payment. The use of digital payments is expanding due to several variables. As per Baber (2020), the current surge in digital payments can be attributed to technology improvements that have led to a greater usage of smartphones.

According to Srivastava et al. (2010), digital payment is an electronic payment method that is more

efficient, practical, and convenient than the traditional method of payment using hard cash. Chawla and Joshi (2019), observed that e-wallets are the most extensively or popularly adopted payment option. One possible explanation for this might be that individuals have been carrying cash and a cell phone, and e-wallets combine both into one. Users typically always carry their mobile devices with them, just as with conventional wallets the mobile wallet was developed because of this trend. Keeping digital cash on hand is possible with a mobile wallet without carrying a physical wallet.

Because trust helps to reduce ambiguity, McKnight et al. (2002) found that it significantly influences end-customers' propensity to utilize services in virtual settings. In response, Afhan and Sharif (2016) make the case that initial trust is crucial when utilizing m-banking by tying it to behavioral goals and performance and effort expectations. The authors address concerns about privacy as well as security related to mobile devices and emphasize the importance of communicating transparently in fostering initial confidence that draws customers to this kind of service. The guarantee that a financial institution explicitly as well as factually specifies conveying guidelines that safeguard the safekeeping, privacy, and assurances to the customers, is one of the major factors contributing to develop the trust to use m-banking (Afshan & Sharif, 2016).

Growth of the internet has led in the surge of digital trade activities which in turn catalyzed the use of electronic payment method as it shaped a need for different medium of making payment where it couldn't be catered by the traditional payment system (Sumanjeet, 2009). Nepal has also observed the widespread use of credit cards, mobile banking, and the e-wallets like E-Sewa, Khalti, Phone Pay, Connect IPS, and Nepal Pay, and an increasing trend of the total value of the amount being transacted through the channel of the electronic payment, e-wallets and mobile banking apps. The inclination of a user's behavior on continually using technological tools is the concept known as the intention to use. Technology adoption may be gauged by an individual's attitude to it, including their desire to recommend it to others and their drive to keep using it (Venkatesh et al., 2012). Various studies have been carried out on the intention to utilize e-payment technologies such as Mallat and Tuuunainen (2008), Cabanillas et al. (2016), and Li (2018). Since the money is in the electronic form and may vanish due to some errors as compared to the traditional hard cash, the visibility is low. Hence, the users must trust the applications or platforms that they are using in regards of security of their money, and this might directly affect their inclination towards using that platform.

The digital payment platforms have many advantages as evident by different research papers, and rapid spike in the number of transactions and volume of transactions. Nonetheless, digital payment transactions are prone to risks, fraud, scam, and other risks where the money of the users may vanish in a blink of an eye. The adoption of digital payments system is still ongoing, and it is penetrating wider populations around the world. Dharmawan, et al., (2024) observed that the security and risks factors are still not the priority of the users of the digital payment platforms as compared to the discount or cashback offers. The emphasis of security and the practices vary according to the region around the world. Fraud and scams are more prevalent in underdeveloped regions whereas in the advanced economies like USA, the risks of more sophisticated cyber-attacks are more common (Iyelolu, T.V., et al., 2024). While the adoption is rapidly growing, the risks are also increasing, and it is necessary to account for security perspectives while discussing the adoption of digital payment platforms.

The development of digital and mobile payments in Nepal has seen significant growth in recent years, specially, after COVID-19 era as evident due to the spike in the quantity and volume of payment transactions using digital payment methods as well as the widespread popularity of the various digital payment products in Nepal (NRB, 2024). The popularity of platforms like e-Sewa, Khalti, Connect IPS, QR Codes, Mobile Banking, etc. has revolutionized the way people conduct financial transactions in Nepal. These services have provided a convenient alternative to cash, especially in urban areas, by enabling users to pay bills, transfer money, and make purchases physically as well as online. The adoption of these technologies has been supported by increased smartphone penetration and improved internet connectivity. Additionally, the Nepal Rastra Bank's regulatory framework has played a crucial role in promoting a secure and efficient digital payment ecosystem. As a result, Nepal is gradually moving towards a more cashless society. While several studies (Pathak, 2024, Tamang, et al., 2021, and Paudel, et al., 2023) have explored the growth of digital payments system in Nepal contrasting the same with the global rise, there has been very little research on the areas like security, privacy, and trusts in the context of digital payments in the country. The gap remains even more significant between the spike in the growth of digital payments in Nepal after COVID-19 pandemic and the inadequate focus on the security, privacy, and trusts of the users. The aim of this study is to explore the effect of trust on user's intent to adopt e-payment platform like mobile banking, internet banking, digital wallets, etc. and the mediating role of security and privacy to strengthen trust as well as intention to use.

Literature Review

This section reviews previous research works conducted by various scholars, focusing on the literature related to digital wallets from both national and international perspectives. The current study aims to understand consumer attitudes toward digital wallets and identify the factors that influence their use of these digital payment methods.

Trust

Trust as per Gefen et al. (2003) may directly impact customers' intentions to use, or it may have an indirect impact on BI by supporting the function of performance expectancy. Customer trust in mobile banking refers to the confidence customers place in the integrity, goodwill, and competence of mobile banking applications and services. This trust enhances their willingness to rely on these platforms for conducting financial transactions. Multiple studies showed that the customer trust is an important aspect in assessing the perception of the customers towards using the mobile banking facilities (Hanafizadeh et al., 2014; Zhou, 2014). For example, Luo et al. (2010) suggested that trust significantly influences both customer intention and performance expectancy. When clients believe that banks, financial institution or other services providers possess the necessary expertise, experience, and competence to provide reliable transactional services, they are more likely to view mobile banking services and other digital payment instruments positively and have greater trust in online financial transactions. This trust, in turn, positively influences their willingness to use mobile banking. However, there is a great deal of ambiguity and associated risk between the parties participating in e-commerce and m-commerce and in such situation, trust becomes crucial, according to Afshan and Sharif (2016). With this there seems that trust has a relation with the intention to use digital transaction and mobile payment services.

According to Braun (2013), the acceptance of new communication technologies relies on trust, as

computer-mediated communication is perceived as personal, making the protection of user privacy essential. Similarly, studies by Merhi et al. (2019) and Pai et al. (2018) emphasize trust as a key factor in shaping the intention to use such technologies.

Security

Perceived security is a belief system held by the users that a service provider adheres to key safety protocols such as validation, reliability, and encryption (Kim, et al., 2008). A sense of security among customers is infused by their understanding of the security measures put in place by the service provider (Friedman & Khan, 2000). When users come across characteristics such as encryption, SSL validation, and other protective measures on a bank's website or mobile banking app, they acknowledge the seller's efforts to guarantee secure transactions. This perception of security helps customers feel more confident in making purchase decisions, as it signals the seller's commitment to gaining consumer trust and reducing perceived risks (Chellappa & Pavlou, 2002).

Hanafizadeh et al. (2014) maintained that trust as well as perceived credibility are important considerations on the adoption of e-banking services by Iranian bank clients. Similarly, Kim et al., (2010) observed that it is imperative to integrate the security components in digital payment instruments and it's implied to sustain trust during a digital payment transaction to increase the number of customers and encourage them to continue using such services. Tsiakis and Sthephanides (2005) observed that the trust plays an important role to create long-lasting business relations, and that lack of trust will create circumstances of security threat. Hanzaee and Alinejad (2012) showed that technical safeguards and transaction processes positively correlate- with the security aspect of e-payment system, and with trusts among e-payment users.

Privacy

Privacy is a fundamental element in building customer trust in mobile payment services and ensuring privacy allows mobile payment services that require sensitive information to thrive and grow further (Karnouskos & Fokus, 2004). Privacy is an integral part of the online transaction and can be verified by numerous reviews of literature related to m-commerce as many customers have indicated their concerns for the privacy (Au & Kauffman, 2008). Another concern of the users of digital payment services is that the service providers may take advantage of the sensitive information of the customers, accumulated during the use of such services as well as loss of the vital information (Xin et al., 2013). A feeling of vulnerability might usher among the customers due to lack of control over the financial transaction and processes which is amplified when the service providers outsource some of their functions from outside of the organization (Chandra et al., 2010). Mozilo (2001) observed that a significant portion of the respondents (72%) were concerned about the leak of their private sensitive information during the e-commerce transactions with many others expressing general concerns about privacy throughout the process.

Intention to use

The intention to use is the probability that a consumer will utilize a specific service or product within a certain timeframe (Dimitriadis & Kyrezis, 2010). On the basis of existing models like TAM (Davis, et al., 1989), TRA (Fishbein & Ajzen, 1975), and TPB (Ajzen, 1991), numerous studies related to e-commerce

observed that the intention of users positively and significantly affects the participation of the consumer in e-commerce activities (Pavlou & Fygenson, 2006).

The term "Intention to Use" in this paper refers to an individual's propensity to persistently engage with technology. This engagement is influenced by the users' attitude, including their motivation to continue, and their willingness to recommend the technology to others (Venkatesh et al., 2012). Research on mobile payment adoption, including studies by Mallat and Tuunainen (2008), and Cabanillas et al. (2016), has long explored various factors affecting technology adoption. Al-Sharafi et al., (2018) examined how the perception related to the security and privacy affect customer's trust in banks while adopting various digital payment services. The study was specifically concentrated on customers' trust in accepting online banking and concluded that security and privacy significantly influence trust among online banking users. Fishbein and Ajzen (2009) observed that the individual's willingness to purchase products has the direct relationship with the intention to use an e-wallet i.e., the stronger the willingness the stronger the probability of using an e-wallet service. Several factors like safety, risk, lifestyle compatibility, and facilitating conditions influences the intention of customers to use digital payment services.

Theoretical Foundation
Theory of planned behavior and theory of reasoned action
According to the Theory of Planned Behavior (TPB), an individual's actual conduct in executing specific actions is directly shaped by their behavioral intention. This intention, in turn, is influenced by the individual's attitudes, subjective norms, and perceived behavioral control regarding the behavior, all of which are determined collectively by the person (Lee, 2009). Behavioral intention measures an individual's willingness to exert effort in performing a particular behavior. Over the past decade, the integration of TPB with the Technology Acceptance Model (TAM) has been prevalent in studying IT usage and e-service adoption (Davis, 1993; Hsu, 2004; Hsu et al., 2006). TPB, an extension of the Theory of Reasoned Action (TRA), was developed to address the TRA's limitations in managing behaviors where individuals lack complete voluntary control. Unlike TRA, TPB incorporates the concept of perceived behavioral control, which allows it to more effectively address behaviors where individuals have only partial control over their actions (Lee, 2009). This enhanced model provides a robust framework for understanding behavioral patterns, forming the foundation of the research conducted on these theories.

Conceptual Framework
Perceived trust is an emotional state that drives individuals to trust others based on their satisfactory behavior (Singh et al., 2020). It is essential in technology adoption, as it strengthens customer relationships and enhances system credibility and security (Liébana-Cabanillas et al., 2018). Trust impacts how users perceive technological innovations and can influence their intention to adopt new technologies (Ehrenhard et al., 2017). Consumers expect reliable transactions and data protection when engaging in electronic payments (Shaw, 2014).

Perceived security is defined as a customer's personal evaluation of the security of an e-payment system (Linck at el., 2006). Security concerns are a significant barrier to the adoption of e-commerce transactions (Orni et al., 2004). Such concerns typically intensify when customers engage in online activities and use e-payment methods (Zhou, 2011).

Many researchers define privacy in terms of information and describe it as "the ability of the individual to personally control the information about oneself" (Awad & Krishnan, 2006). The growing concern in the technological world is the individual's capacity to manage their own information. In the context of risks associated with m-commerce and e-commerce, researchers have often combined the concepts of security and privacy (Susanto et al., 2012). However, despite their interrelatedness, privacy and security are distinct concepts with notable differences (Veijalainen, 2007).

Namkung and Jang (2007) define behavioral intention as the "behavior of consumers who are loyal to the company and would be willing to recommend it to others because they have received good service from the company." Shiau (2014) describes it as the subjective likelihood reflecting an individual's willingness to perform a task. Various factors, which differ among individuals, affect the intention to use e-payment platforms. Fishbein & Ajzen (2009) note that the intention to use an e-wallet indicates the strength of an individual's willingness to purchase. Factors such as security, risk, lifestyle compatibility, and facilitating conditions influence this intention in various ways.

Figure 1

Conceptual Framework
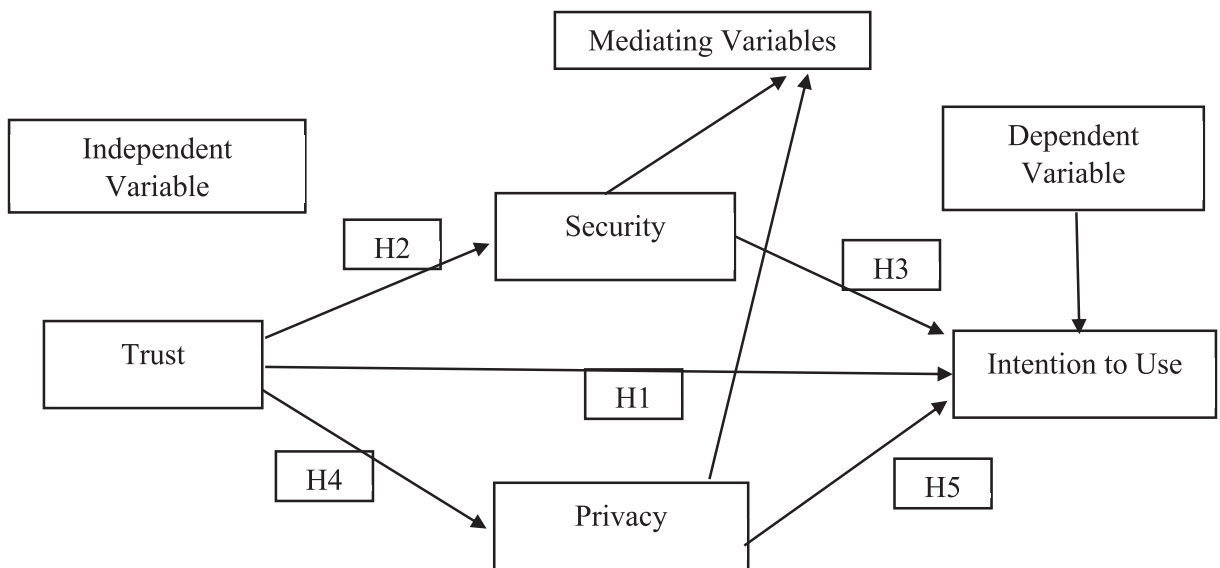
Research Design

Research design refers to the comprehensive plan or strategy that guides the process of data collection, measurement, and analysis in a study (Khatri, 2022). It establishes the framework within which the research will be conducted and ensures that the methods employed are consistent with the research questions or hypotheses. A good research design facilitates the collection of relevant evidence, leading to credible and valid conclusions (Creswell, 2014).

Population and Sample

The total population for the purpose of this research is the total number of people who are currently using the digital wallets services in Nepal through different service providers. Thus, the population of the research is unknown, and because of this the representative sample size is calculated based on themethod as explained below:

Calculation of sample size: $n_0 = Z^2 \cdot p.q / e^2$ (Singh & Masuku, 2014)
Where, n_0 = required sample size

p = estimated proportion of an attribute that is present in population

q = estimated proportion of an attribute that is not present in population = 1-p

 e = Desired level of precision

Z^2 = Abscissa of normal curve (z- score)

When there was a large population, we did not know the variability in the proportion that would adopt the practice; therefore, we assumed p= 0.5 (maximum variability). Supposing that we desired a 95% confidence level and ±5% precision, the resulting sample size was

$n_0 = Z^2 \cdot p.q / e^2$
$= 1.96^2 \times 0.5 \times 0.5 / 0.05^2$
~ 384.14

Therefore, the sample size for the study was 384 digital wallet users.

The online survey was chosen as an ideal method due to its broad reach, convenience, quick response time, cost-effectiveness, and ease of design. The questionnaire was crafted to collect data on customer attitudes toward e-wallet adoption, drawing on previous research related to digital wallet adoption intentions. This is based on the previous researches based on customers intention to adopt digital wallets (Malik et al., 2019; Phan et al., 2020)

Data Collection Method

The data for this research was gathered from primary sources through self-administered questionnaires distributed to electronic payment users. A close-ended, structured questionnaire was designed to meet the data needs. The questionnaire was shared both electronically, via social networking sites and Google mail, and manually by visiting service users. Respondents were provided with instructions to ensure accurate results. Previous studies on customer acceptance of digital payments, such as those by Al-Sharafi et al. (2018), Gerpott and Kornmeier (2009), Kim et al. (2010), and Lee and Chung (2009), used sample sizes around 350. In our study, we collected 384 responses for the purpose of the analysis and determination of the conclusions.

Measurement Framework

The research instrument consists of two sections: section A that contains demographic information; section B that addresses the information regarding other remaining variables. Demographic characteristics (i.e. age, gender, duration of use, marital status and employment status) were considered to acquire information about the participants. The purpose of this question was to identify respondents who have previous experience with using digital wallet payment options and other information regarding the employment status and duration of use. Verified structured questions were adopted for the purpose of the collection of the data where 7- point Liket scale (1- Strongly Unsatisfied and 7- strongly Satisfied) was used. The items for the four constructs, adapted from prior research on internet banking adoption, were modified for digital payment method adoption. DeSalvo et al. (2006) validated these measures for reliability and discriminant validity. ITU items were considered from Davis (1989) and Venkatesh and Bala (2008). Similarly, the PSC and PPC items from Yousafzai et al. (2010), and PT items from Lee and Chung (2009).

Data Analysis

Data were analyzed using a couple of stages as suggested by Gefen et al. (2000). Initially, the model developed for measurement was evaluated using convergent and discriminant validity, composite reliability, and internal consistency tests. Then, the model developed for structural understanding was evaluated for determining relationships among the latent variables. Using two models as described, the data were analyzed and conclusions were drawn. Smart PLS 4.0 was used for the analysis of the collected data.

Smart PLS 4.0 was utilized to evaluate the models through both measurement and structural analysis, including tests for convergent and discriminant validity. Reliability refers to the consistency as well as the stability of a measuring instrument, while validity indicates how well it measures what it intends to measure. The coefficient of Cronbach's Alpha measures consistency of the survey objects, ensuring they consistently capture the same trait (Acharya et al., 2023; Poudel et al., 2023).

Ethical Considerations

Consent form accompanied the survey to ensure participants' willingness, along with basic information about digital wallets and user experiences related to balance checking, money transfers, and payments via mobile devices (Shetu et al., 2022). Participation was voluntary, with no incentives offered. All necessary data was collected from the respondents without any harm and completely maintained secrecy, confidentiality and privacy.

Results

Demographic characteristics in research describe the background of respondents, including variables such as age, gender, ethnicity, education level, occupation, income, marital status, geographic location, and socioeconomic status. These characteristics help contextualize the data and interpret findings by revealing patterns and trends within the sample population. Table 1 below summarizes the characteristics of the respondents in the tabulation form.

Table 1

Demographic Characteristics of the Respondents

Demographic characteristics		Frequency	Percent
Gender	Female	208	54.2
	Male	176	45.8
Age group	20-24	69	18.0
	25-29	259	67.4
	30-34	54	13.8
	35 and above	3	0.8
Duration of use	1 - 3 years	227	59.1
	3-5 years	109	28.4
	6 years above	48	12.5
Marital status	Married	90	23.4
	Unmarried	294	76.6
Occupation	Employed	167	43.5
	Unemployed	217	56.5
Tribhuvan University		232	60.4
Pokhara University		75	19.5
Kathmandu University		77	20.1

The analysis of demographic variables among digital payment users showed that 54.2% were female (n=208) and 45.8% were male (n=176), indicating minimal gender variation. Most respondents were aged 25-29 years, comprising 67.4% (n=259). Among the total respondents, 227 respondents were using digital wallets for the duration of 1-3 years, 109 respondents were using them for the period of 3-5 years and the remaining 48 respondents were using them for the period of 6 years and above. In the same way among all the respondents, a total of 167 were employed and the remaining 217 respondents were unemployed.

Measurement Model

A measurement model is a key component in research methodologies, particularly in the context of structural equation modeling (SEM) and factor analysis. It provides a systematic way to link abstract concepts (latent variables) to observable data. Figure 2 shows the measurement model. The usage of Smart PLS 4.0 allowed the evaluation of both reliability and validity. Different statistics like Average Variance Extracted (AVE), Composite Reliability (CR), and Cronbach's Alpha (CA) were calculated to measure the convergent validity with thresholds of CR above 0.7,

item loadings above 0.6, and AVE above 0.5 (Tenenhaus et al., 2005). The criteria for validity using different measures were found to be meeting as presented in Table 2.

Table 2

Convergent Validity

Variables		Outer Loading	Cronbach's alpha	CR	AVE
Intention to use	ITU1	0.881	0.842	0.845	0.762
	ITU2	0.813			
	ITU3	0.921			
Privacy	PRV1	0.771	0.883	0.884	0.631
	PRV2	0.753			
	PRV3	0.819			
	PRV4	0.82			
	PRV5	0.805			
	PRV6	0.798			
Security	SEC1	0.785	0.851	0.852	0.627
	SEC2	0.777			
	SEC3	0.826			
	SEC4	0.788			
	SEC5	0.781			
Trust	TRU1	0.862	0.834	0.839	0.751
	TRU2	0.838			
	TRU3	0.899			

Discriminant validity

Discriminant validity is the measure of how distinctly a construct differs from other constructs, ensuring it does not strongly correlate with measures of unrelated concepts. This type of validity is crucial in validating the uniqueness of a theoretical construct. The Fornell-Larcker criterion and Heterotrait-Monotrait (HTMT) ratio were used to assess the Discriminant validity, they measure the extent to which unrelated constructs are indeed uncorrelated and unrelated to each other. Fornell and Larcker (2014) mentioned that when the square root of AVE for each construct exceeds the correlation between the constructs, then the constructs are measuring unrelated things, or their discriminant validity is at the acceptable level. The results of the Fornell and Larcker criteria was in Table 3. As mentioned by Henseler et al. (2015), a threshold of less than 0.90 was considered in this research for benchmarking the acceptable results of the discriminant validity about HTMT criteria and the results were presented in Table 4.

Table 3

Discriminant Validity Fornell and Larcker Criteria

Variables	ITU	PRV	SEC	TRU
ITU	0.873			
PRV	0.587	0.795		
SEC	0.617	0.722	0.792	
TRU	0.555	0.715	0.701	0.867

Table 4

Discriminant Validity Heterotrait–Monotrait Ratio (HTMT) Approach

Variables	ITU	PRV	SEC	TRU
ITU				
PRV	0.677			
SEC	0.726	0.83		
TRU	0.66	0.829	0.831	

Figure 2

Measurement Model
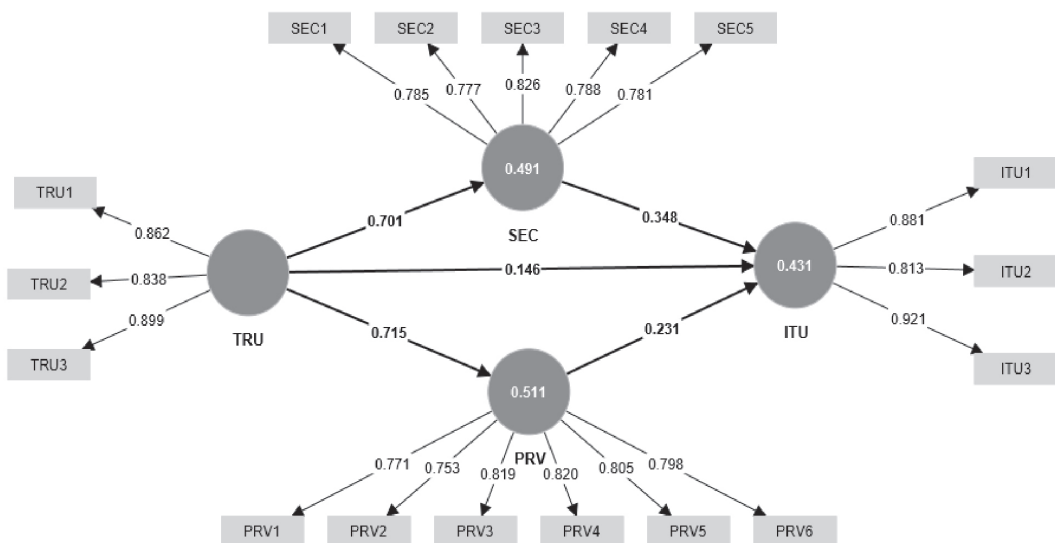
Structural model

Structural Equation Modelling (SEM) is a model for identifying relationships between study constructs using the covariance matrix of the constructs (Hu et al., 2019). The model was evaluated using the explanatory power and t-values of the path coefficients. SEM is widely applied in social sciences, psychology, and market research for its ability to model complex phenomena (Kline, 2015). It evaluates both direct and indirect effects, providing insights into the structural relationships between constructs (Byrne, 2016).

Path Coefficient and Hypothesis Testing

The term "path coefficient" denotes the potential relationship between variables in research, with values ranging from -1 to +1. A positive value signifies a confident relationship while a negative value denotes an adverse relationship. The significance of the proposed model is assessed using bootstrapping, a nonparametric test suitable for PLS-SEM, and it does not assume normality in the data. It is recommended to use 5,000 bootstrapping samples (Hair et al., 2011).

Table 5

Path Coefficient and Hypothesis Testing

Relation	Hypothesis	Beta Coefficient	Sample mean (M)	STDEV	T-stat	P values	Decision
PRV -> ITU	H5	0.232	0.232	0.071	3.258	0.001	Supported
SEC -> ITU	H3	0.348	0.346	0.068	5.084	0	Supported
TRU -> ITU	H1	0.146	0.146	0.065	2.226	0.026	Supported
TRU -> PRV	H4	0.715	0.716	0.028	25.145	0	Supported
TRU -> SEC	H2	0.701	0.702	0.029	24.094	0	Supported

There were five hypotheses in this research, and all five hypotheses were supported based on the responses collected and the analysis conducted. The results indicated that Hypothesis H1 (TRU -> ITU, β: 0.146, STDEV: 0.065, T-Stat: 2.226 and P-value: 0.026) was sustained showing a meaningful positive relationship among trust and customers' intention to use. Hypothesis H2 (TRU -> SEC, β: 0.701, STDEV: 0.029, T-Stat: 24.094 and P-value: 0.000) was also sustained

implying a favorable relationship among trust and security. Hypothesis H3 (SEC -> ITU, β: 0.348, STDEV: 0.068, T-Stat: 5.084 and P-value: 0.000) was sustained demonstrating a meaningful positive relationship among security and intention to use. Hypothesis H4 (TRU -> PRV, β: 0.715, STDEV: 0.028, T-Stat: 25.145 and P-value: 0.000) showed that the trust factor was vital in defining wallets users' intention to use factor. Lastly, Hypothesis H5 (PRV -> ITU, β: 0.232, STDEV: 0.071, T-Stat: 3.258 and P-value: 0.001) showed a positive relationship between two variables i.e. privacy and intention to use. The results implies that trust has direct impact on the customers intention to use digital wallets in case of Nepal and in the same way trust factor impact security and privacy and the security and privacy factors impacts the intention to use. These results imply that the digital wallets service providers should give more emphasis on the security and also for the privacy factor.

Mediation Analysis

The authors investigated the mediation impact of the security and privacy factors between the customers trust towards digital wallets and their intention to use. According to the findings both variables i.e. security and privacy both has mediation

Table 6

Indirect Effect or Mediation Analysis

Relation	Beta Coefficient	Sample mean (M)	STDEV	T statistics	P values	Decision
TRU -> PRV -> ITU	0.166	0.166	0.052	3.196	0.001	Supported
TRU -> SEC -> ITU	0.244	0.243	0.049	4.999	0	Supported

The relationship among trust and intention to use through privacy (TRU -> PRV -> ITU) is also supported (β: 0.166, STDEV: 0.052, T-Stat: 3.196 and P-value: 0.001) indicating partial mediation of the privacy perception among trust and intention to use digital wallets. Again, the relation among trust and intention to use through security (TRU -> SEC -> ITU) is also supported (β: 0.244, STDEV: 0.049, T-Stat: 4.999and P-value: 0.000) indicating the partial mediation of the security perception among trust and intention to use the e-wallets. The security and privacy factor mediation hypothesis is supported that implies that there is the simple partial mediation of security and privacy factors between trust and intention to use.

Figure 3

Structural Model and Path Analysis
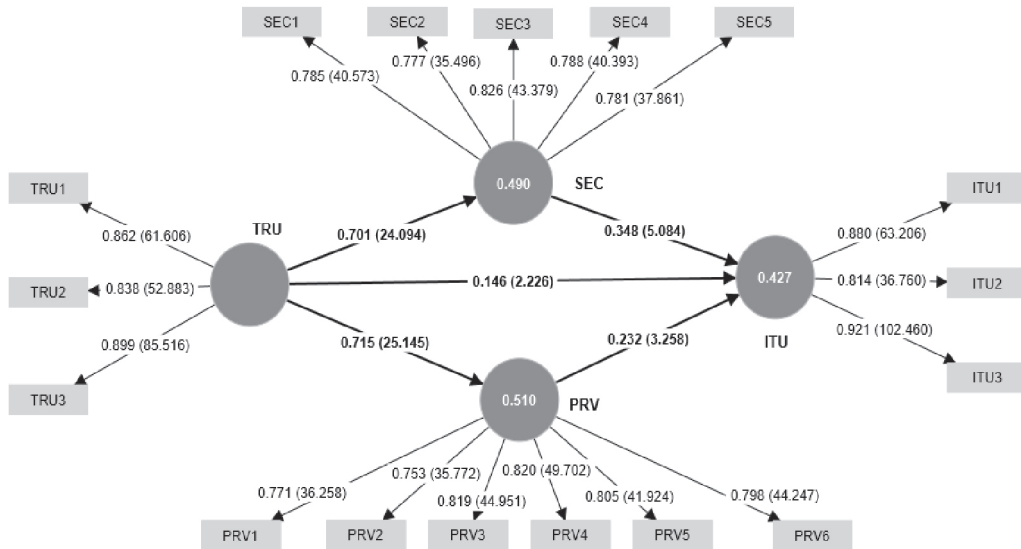
Discussion

The present study aimed at exploring the factors influencing the adoption of mobile wallets in Nepal, focusing on the role of trust and the mediating effects of security and privacy. The results indicated that trust significantly influences the adoption of mobile wallets. Additionally, security and privacy were found to positively impact trust, serving as crucial mediators in the relationship between trust and the adoption of mobile wallets.

The findings of the present study align with the findings of Nepal (2024) and Poudel et. al. (2023) where the researcher identified that the security, privacy, and trust have a significant positive relationship with the adoption of mobile wallets and increasing their intention to use in the context of Pokhara and Kathmandu valley. The result of this study also correlates with the study of Joshi and Chawla (2024) where the researchers observed that perceived security increased the behavioral intention to use mobile wallets among the Indian population. Further, they also discovered that the security increased trust of the users on the application which enhanced the intention to use such applications confirming to the Nepalese context in the present study.
Previous researches have consistently highlighted the importance of trust as a key determinant in the adoption of mobile wallets. The positive influence of security and privacy on trust has also been documented in studies from various contexts, emphasizing that users are more likely to adopt mobile wallets when they perceive these services as secure and protective of their privacy.

This study adds to the body of knowledge by confirming these relationships within the Nepalese context, a relatively under-researched area in digital finance.

The regulators may consider the findings of this study while developing regulations in Nepal to strengthen the privacy and security related features. Service providers may leverage these findings to improve the security and privacy features of their digital payment platforms, thereby enhancing user trust and encouraging broader adoption. However, there are a few limitations of the present study such as, lesser sample size focusing on urban populations only which hinder the generality of the findings across Nepal and the use of a few independent variables only. The future study should focus on the larger sample size drawn from the diversified population and using other factors affecting the adoption of digital wallets in Nepal like user experience, financial literacy, technological savviness, etc.

Conclusion

There is rise in the use of digital payment methods in Nepal with a rapid growth after COVID-19 Pandemic. Nepal has seen a surge of 255% in the wallet users, 665% in the connect IPS users, and 109% in the mobile banking users (NRB, 2024) when compared to the Pre and Post COVID-19 era. Similarly, the growth seems in upward direction, and this has resulted in the tighter regulation, investment by the private sector, and adoption by the end users in Nepal. The present study was carried aiming to study the impact of trust on intention to use digital payment platforms in Nepal and in finding out the indirect impact of security and privacy. The results suggest that Nepalese digital payment product users consider trust as an important factor when deciding to use digital payment products. Furthermore, the security and privacy plays a vital role in strengthening the trust, and thus increasing the intention of use of the digital payment products in Nepal.

The results suggest that the Nepalese digital payment companies including the banks shall focus on building the trusts of the customers and a common way of doing that is to focus on security of the platform and privacy of the customers. These are the basic features that all the digital payment platforms shall focus and the research in the Nepalese context are carried out in a limited number. However, the present study supports the findings of various international studies in the similar domain and provides a pathway for future researchers to further dig deep into each of these components and understand the changing need of the customers and regulators.

This study highlighted the significant role of trust in shaping customers' intentions to utilize digital wallets within the context of Nepal. Additionally, it addressed the concerns individuals have regarding the security and privacy of the data they share while using digital wallet services. We have witnessed few instances where the data of the users are appropriated to misuse the money of the customers. Such incident requires digital wallets vendors to ensure more safety

and privacy of the users' data with strong regulations for more secure and private transactions among the customers.

Author Contributions

Informed Consent Statement

Informed consent was obtained from all subjects involved in the study.

Conflicts of Interest

The authors declare no conflict of interest.

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