# Behavioural Intention to Adoption of Digital Wallets in Nepal: An Application Using the UTAUT Model

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**Abstract**

*Digital wallets in Nepal have expanded beyond just basic financial transactions. They are utilized for online purchases, utility bill payments, tax payments, renewal services, and many more. With the rapid growth of technology and the digital economy, digital wallet users are also growing (27.86%) within a year. Digital wallet users are self-assured to become a vital instrument in enhancing the quality of life for Nepali citizens and promoting financial inclusion. They are fast becoming an indispensable component of the country's financial ecosystem. The purpose of this research was to examine the elements that influence behavioral intention to adopt digital wallets. Data was gathered from a group of 150 individuals from various regions of Nepal. The study relied on five independent variables (Performance expectancy, effort expectancy, social influence, facilitating condition, and trust) derived from the UTAUT model. Convenience sampling was used to gather the information. The result shows that the facilitating condition was not relevant in the adoption of digital wallets in Nepal. Similarly, the age factor of the users was more associated than the gender of the respondents with performance expectancy in the Nepalese context.*

**Keywords:** Performance expectancy, effort expectancy, social influence, facilitating condition, digital wallet adoption

## 1. Introduction

The number of smartphone users in Nepal is steadily increasing, with over 27.76 million individuals - equivalent to 65.68 percent of broadband internet service users- accessing the internet via their mobile devices (according to data from the Nepal Telecommunication Authority in 2021). Additionally, the popularity of digital wallet services is rising, with over 19.5 million people utilizing this convenient technology (as reported by the Nepal Rastra Bank in July 2023). With ever-increasing computing power and hardware enhancements, smartphones have transformed into versatile and powerful tools, making them an ideal option for payment transactions - especially given their affordability and the widespread availability of internet services. Over the last decade, digital wallets have revolutionized financial transactions in Nepal, transforming the country's financial landscape (Bhandari, 2019) These 'e-wallets' or 'mobile wallets' provide Nepali consumers with convenience, accessibility, and security. Smartphones and internet connectivity have facilitated the adoption of digital wallets in Nepal. As more citizens gained access to these technologies, digital wallets became a practical method of transferring money anytime.

The government's efforts to promote financial inclusion have been a key driver of digital wallet adoption in Nepal. Initiatives like the 'Financial Sector Development Strategy' and collaborations between financial institutions and mobile network operators have successfully integrated digital wallets into the broader financial ecosystem. This has made it easy for people in remote and underserved areas to access financial services like payments, money transfers, and credit.

The COVID-19 pandemic accelerated the adoption of internet banking as well as digital wallets as people sought contactless payment options and remote financial services. This shift demonstrated the convenience and resilience of digital wallets during times of crisis. Carbo-Valverde et al. (2020) mentioned that the idea of going digital is far more complex than is typically thought. Digitalization is a complex phenomenon rather than a one-dimensional technical development. The research on financial digitalization of consumers has mostly concentrated on the use of online channels, even while literature about the global digitalization of society has explored numerous aspects of the digitalization process (Çera et al., 2020).

Digital wallets in Nepal are now not only used for basic financial transactions but also for online shopping, utility bill payments, and even as a means of identification. As the digital economy and technological advancement continue to grow, digital wallets are expected to play an even larger role in facilitating financial inclusion and improving the overall quality of life for Nepali citizens. The development of financial infrastructure requires digital payments through smartphones and mobile gadgets. The installed apps on mobile phones allow users to securely pay for almost anything and store receipts, coupons, and bills on

their smart devices. Nepal's mobile payment tools include mobile banking applications and mobile digital wallets. A mobile digital wallet expands the range of digital payment services compared to mobile banking. There are many services offered by mobile digital wallets, such as paying school fees, paying utility bills, paying insurance premiums, scanning and paying at shops/restaurants, booking tickets, watching movies, and shopping online. On the other hand, mobile banking is primarily concerned with top-ups and banking transactions through mobile devices. A total of 18 digital wallets are currently operating in Nepal. They offer many payment options such as mobile top-ups, utility payments, bill payments, financial payments, business payments, fund transfers, ticketing options, and more as a Payment Services Provider (PSP).(Nepal Rastra Bank[NRB], 2020)

## 2. Literature Review

A review of the literature on information systems, innovative technology, e-commerce, and mobile shopping reveals a number of theories or conceptual models that are frequently applied or expanded with additional variables for analyzing different contexts of technology adoption, particularly the users' intention to adopt m-services, as well as the reactions of customers to factors influencing their intention to use their mobile devices to make purchases of goods and services (Saprikis et al., 2018). Buyer behavior can be influenced by a variety of factors, including the product itself, price, features, quality, packaging, buying habits, social status, age, and generation. As lifestyles and trends evolve over time, consumer preferences can shift and impact purchasing patterns. In the digital age, marketers face new challenges in finding creative ways to sell their products in response to changing consumer behavior. Ultimately, consumer behavior and patterns play a significant role in shaping purchasing decisions (Phalange, 2017).

Nowadays, data has been transformed into electronic formats that make it accessible through computer screens. This technological advancement has been widely accepted by the public, as noted by Hsu et al. (2017). Experts have created various theoretical models to predict how people will adopt and use technology, and what will be the factors to influence behaviour intention. The Unified Theory of Acceptance and Use of Technology (UTAUT), one of these models, was created by Venkatesh et al. (2003) to forecast technology acceptance in corporate contexts. According to Chang (2012), UTAUT integrates the key ideas from eight prior models that include everything from computer science to human psychology.

Since the early 1970s, numerous models have been proposed to comprehend and elucidate the factors that determine the acceptance of information technologies. These models investigate the relationship between the level of technology usage and the attitudes, perceptions, and beliefs of users. The models encompass a) the Theory of Reasoned Action Model (TRA), b) the Technology of Acceptance Model (TAM), c) the Theory of Planned

Behavior (TPB), d) the Decomposed Theory of Planned Behavior (DTPB), e) the Model of Personal Computer Utilization (MPCU), f) the Diffusion of Innovations Theory (DIT), g) the Social Cognitive Theory (SCT) and finally h) Unified Theory of Acceptance and Technology (UTAUT) model (Chang, 2012).

In 2003, Venkatesh et al. presented UTAUT, a framework that identified four critical factors influencing people's intentions to use technology. The first factor is performance expectancy, which refers to the belief that using the service will enhance job performance. The second factor is effort expectancy, which pertains to the system's ease of use. The third factor is facilitating conditions, which encompasses the belief that there is enough technical and organizational support to use the system. Lastly, social influence is all about the perception that others believe it's necessary to use the new system. UTAUT 2, introduced by Chang in 2012, added three more constructs: hedonic motivation, price value, and habit. UTAUT has gained widespread acceptance in the field. Due to the diversity of the technology acceptance models with similar theoretical foundations, initiatives to develop unifying models have emerged, including the UTAUT model proposed by Venkatesh et al. (2003). The UTAUT model was generatedfrom a conceptual and empirical synthesis of the previously mentioned framework, providing a coherent theoretical perspective in the study of the adoption of technology. Performance expectation, effort expectancy, social influence, enabling environments, and hedonic motivation make up the basic components of the UTAUT paradigm. All of these variables influence the intention and use of technology behavior. UTAUT divides variables into two types by reintegrating the previous models. The second type is the moderating variables that have significant impacts on core variables, namely gender, age, voluntariness, and experience (Chang, 2012).

The utilization of digital mobile wallets is on the rise due to the increasing number of Internet and smartphone users. In this study, we aim to determine the connection and effects of influencing factors on the behavioral intention to use digital mobile wallets in Nepal. Consumer decision mapping is essential for organizations to design effective marketing plans (Elzinga, 2020). Khan and Ul Abideen (2023) identified the relationship and impact of variables including performance expectancy, effort expectancy, social influence, and facilitating conditions on usage behavior. The findings can aid in comprehending the consumer decision journey stages of awareness, familiarity, consideration, and use, leading to loyal customers. The paper aspires to answer four questions: 1) What are the purposes for using digital wallets? 2) Is there a significant difference behaviour intention in relation to performance expectancy, effort expectancy, social influence, and facilitating conditions across age groups? 3) How are performance expectancy, effort expectancy, social influence, and facilitating conditions related to behavioral intention to use digital mobile wallets? 4) What effects do social influence, effort expectation, and performance expectation have on the behavioral intention to utilize digital mobile wallets? The utilization of digital mobile

wallets is on the rise due to the increasing number of Internet and smartphone users. In this study, it aims to determine the connection and effects of influencing factors on the behavioral intention to use digital mobile wallets in Nepal. Consumer decision mapping is essential for organizations to design effective marketing plans (Elzinga, 2020). This study examines how usage behavior is affected by variables including performance expectations, effort expectations, social influence, and enabling environments. Hence, the paper tries to see the behavior intention toward the adoption of digital wallets among Nepalese users under the UTAUT model.

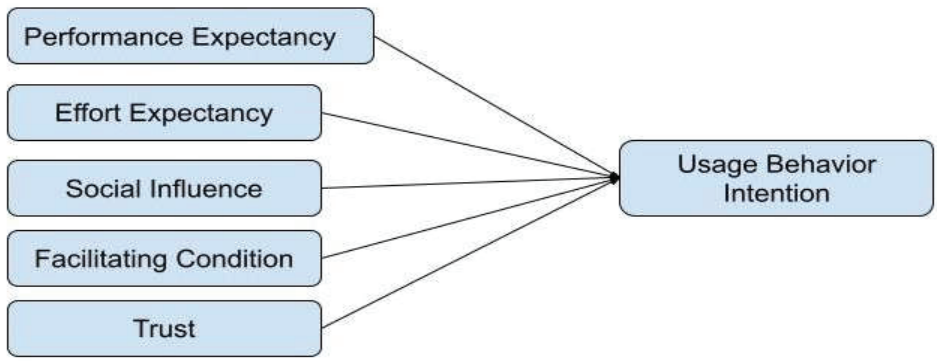


**Figure 1:** *Theoretical Framework*

## 3. Methodology

A preliminary investigation was carried out in the Kathmandu Valley, utilizing a convenience sampling approach to ensure that a representative group of 35 participants was reached in order to evaluate the validity of the questionnaire. The respondents were selected from different age groups using Digital Wallet. A total of 150 questionnaires were collected through a self-administered questionnaire. The questionnaire is divided into three parts that gather information about the respondents' personal details, their experience with the internet and internet banking, and selected variables.

The questionnaire consists of 23 statements with a five-point ordinal scale to measure the behavioral intention of using a digital wallet (3 statements) and the selected variables, including performance expectancy (4 statements), effort expectancy (4 statements), social influence (4 statements), facilitating conditions (4 statements), and Trust (4 statements). These variables are adapted from Venkatesh et al. (2003). The responses vary from strongly agree on one end to strongly disagree on another end, with the scoring of one to five points. Before analyzing the data, the scores for each variable were added up. Before analyzing the

data, the scores for each variable were added up. For the purpose of examining the collected data, the Statistical Package for Social Science (SPSS) for Windows was used. The respondents' profile was analyzed using descriptive analysis, which included frequency and percentage. The study employed descriptive statistics and regression analysis to see the relationship between the selected variables.

## 4. Results and Discussion

### 4.1 Profile of the Respondents

#### 4.1.1. Gender of the Respondents

**Table 1:** *Gender of the Respondents*

| Gender | Frequency | Percent |
|---|---|---|
| Male | 96 | 64 |
| Female | 54 | 36 |
| **Total** | **150** | **100** |

*Source: Field Survey, 2023*

The results showed that 64 percent of the respondents were male, and 36 percent of the respondents were female.

#### 4.1.2. Age Group of the Respondents

**Table 2:** *Age Group of the Respondents*

| Age Group | Frequency | Percent |
|---|---|---|
| 21-30 | 26 | 17.3 |
| 31-40 | 34 | 22.7 |
| 41-50 | 43 | 28.7 |
| 51-60 | 30 | 20 |
| Above 60 | 17 | 11.3 |
| **Total** | **150** | **100** |

*Source: Field Survey, 2023*

The majority (28.7 Percent) of the respondents are from the age group of 41-50 years.

### 4.1.3. Education of the Respondents

**Table 3:** *Education of the Respondents*

| Education | Frequency | Percent |
|---|---|---|
| Primary | 14 | 9.3 |
| Secondary | 32 | 21.3 |
| Bachelor | 62 | 41.3 |
| Masters and above | 42 | 28 |
| **Total** | **150** | **100** |

*Source: Field Survey, 2023*

A large portion of the respondents have a bachelor's degree, covering 41.3 percent.

### 4.1.4. Employment of the Respondents

**Table 4:** *Employment of the Respondents*

| Employment | Frequency | Percent |
|---|---|---|
| Business | 22 | 14.7 |
| Service | 53 | 35.3 |
| Student | 41 | 27.3 |
| Retired | 13 | 8.7 |
| Others | 21 | 14 |
| **Total** | **150** | **100** |

*Source: Field Survey, 2023*

The highest number of respondents are from the service sector (35.3 percent), followed by students (27.3 percent).

### 4.1.5. Income Level of the Respondents

**Table 5:** *Income Level of the Respondents*

| Income level | Frequency | Percent |
|---|---|---|
| Below 20000 | 71 | 47.3 |
| 20000-50000 | 54 | 36 |
| 50000 and above | 25 | 16.7 |
| **Total** | **150** | **100** |

*Source: Field Survey, 2023*

The respondents with an income level below 20000 covered a large portion, followed by the income level of 20000-50000.

### 4.2. Descriptive Statistics of Variables

The table below shows the descriptive statistics of the dependent and independent variables:

**Table 6:** *Income Level of the Respondents*

| Variables | Mean | Std. Deviation | Skewness | Kurtosis |
|---|---|---|---|---|
| Performance Expectancy | 14.04 | 2.67 | -0.01 | +0.22 |
| Facilitating Condition | 12.79 | 2.63 | +0.35 | +0.09 |
| Social Influence | 12.53 | 2.70 | +0.21 | +0.18 |
| Effort Expectancy | 12.44 | 2.34 | +0.05 | +0.21 |
| Trust | 11.82 | 2.66 | +0.33 | -0.23 |
| Behavioral Intention | 9.73 | 2.33 | +0.08 | +0.21 |

*Source: Field Survey, 2023*

The respondents have a higher level of agreement on performance expectancy, while the least agreement was seen for behavioral intention. The performance expectancy was seen with negative skewness and Trust with negative kurtosis.

### 4.3. Regression Analysis Result

The result from the regression analysis is as follows:

**Table 7:** *Model Summary*

| Model | R | R Square | Adjusted R Square | Change Statistics | | F Statistics | Durbin - Watson |
|---|---|---|---|---|---|---|---|
| | | | | R Square Change | Sig. F Change | | |
| 1 | 0.537a | 0.289 | 0.284 | 0.289 | 0.000 | 60.06 | |
| 2 | 0.578b | 0.334 | 0.325 | 0.045 | 0.002 | 36.87 | |
| 3 | 0.611c | 0.373 | 0.361 | 0.039 | 0.003 | 29.00 | |
| 4 | 0.625d | 0.391 | 0.374 | 0.017 | 0.045 | 23.24 | 1.476 |

*a Predictors: (Constant), Trust*

*b Predictors: (Constant), Trust, Social Influence*

*c Predictors: (Constant), Trust, Social Influence, Effort Expectancy*

*d Predictors: (Constant), Trust, Social Influence, Effort Expectancy, Performance Expectancy*

*e Dependent Variable: Behavioral Intention*

The behavioral intention toward Internet banking adoption among the sampled respondents was related to Trust, social influence, effort expectancy, and performance expectancy but was not associated with facilitating conditions.

UTAUT Model states that the gender and age of the users determine the expectancy and behavioral intentions.

**Table 8:** *Model Summary*

| Model | R | R Square | Adjusted R Square | Change Statistics | | F Statistics | Durbin-Watson |
|---|---|---|---|---|---|---|---|
| | | | | R Square Change | Sig. F Change | | |
| 1 | 0.192a | 0.037 | 0.034 | 0.037 | 0.063 | 2.815 (0.06) | 2.170 |

a. Predictors: (Constant), Age of the Respondents, Gender of the Respondents

b. Dependent Variable: Performance Expectancy

Only 3.4 percent of behavioral expectancy on digital wallets is seen as determined by the age and gender of the users.

**Table 9:** *Coefficient*

| Model | Unstandardized Coefficients | | Standardized Coefficients | T-Statistics | Sig. |
|---|---|---|---|---|---|
| | B | Std. Error | Beta | | |
| (Constant) | 12.286 | 0.793 | | 15.485 | 0.000 |
| Gender | 0.615 | 0.449 | 0.111 | 1.37 | 0.173 |
| Age | 0.322 | 0.173 | 0.151 | 1.859 | 0.065 |

a Dependent Variable: Performance Expectancy

Performance expectancy was seen to be associated significantly with the age of the users rather than with the gender of the Nepalese users.

## 4.4 Discussion

The findings highlight crucial factors influencing the adoption of digital wallets within the context of banking and financial institutions. Banks must gain a deep understanding of potential users' perspectives in order to identify and target key considerations that will attract more customers. In the current landscape, trust has emerged as a vital element that can significantly impact various aspects of our lives. It is a key factor that fosters positive relationships, supports sustainable business practices, and contributes to the overall well-being of society. Trust, being a cornerstone of financial transactions, holds immense importance in digital wallet adoption. Banks can use this insight to improve their services by focusing on initiatives that build trust. It is important for banks to prioritize these efforts in order to establish credibility with their customers. Ensuring robust security measures, transparent policies, and effective communication about the safety of digital wallets can significantly enhance user trust. Additionally, focusing on factors such as performance expectancy, where respondents showed higher agreement, indicates that users value the perceived usefulness and efficiency of these digital tools. Hence, institutions should emphasize enhancing user experience, ensuring seamless functionality, and promoting the practicality of digital wallets to attract and retain customers effectively.

The UTAUT model of Venkatesh et al. (2003) provides valuable insights into the factors that institutions need to prioritize in their strategies to encourage digital wallet adoption. While performance expectancy received higher consensus, behavioral intention showed

lower agreement, indicating a potential gap between perceived usefulness and actual adoption intentions. However, this paper presents an opportunity for institutions to address concerns, improve awareness, and provide incentives to encourage behavioral intentions that favor digital wallet adoption. The UTAUT model also highlights the importance of user expectations and their willingness to embrace digital wallets, as demonstrated by the moderating role of performance expectancy and behavioral intention. By focusing on these factors, institutions can create a more constructive environment that promotes the adoption of digital wallets. In order to design effective interventions, it is important for banks to have a comprehensive understanding of user perception and adoption dynamics. Additionally, the fact that age is more closely associated with performance expectancy than gender highlights the need for targeted marketing strategies based on demographic insights. By tailoring their approaches to different age groups, banks can optimize their digital wallet services for a diverse user base and achieve greater success.

The findings emphasize the need for banking institutions to prioritize trust-building measures for digital wallet services. Robust security protocols, transparent operations, and effective communication about safety measures can enhance user trust. Improving user experience and emphasizing practical benefits can also align with user expectations. Furthermore, the differences in agreement levels among the factors in the UTAUT model highlight the importance for institutions to bridge the gap between perceived usefulness and actual adoption intentions. This requires targeted strategies that focus on education, incentives, and addressing concerns to encourage greater acceptance and use of digital wallets. Additionally, recognizing the influence of demographics, particularly age over gender, emphasizes the need for customized marketing and service approaches. Tailoring services to meet the specific preferences and expectations of different age groups can be crucial in driving widespread adoption and usage of digital wallets within the Nepalese context.

## 5. Conclusion

The study could help banks to understand the potential users of digital wallets. Besides, banking and financial institutions can focus on these factors, such as Trust, to improve their service to attract and convince more customers. Internet banking is a good way to improve the efficiency of service and ease customer in their daily activities. The respondents have a higher level of agreement on performance expectancy, while the least agreement was seen for behavioral intention. In relation to the UTAUT model, except for facilitating conditions, other factors, Trust, social influence, effort expectancy, and performance expectancy, were seen to influence behavioral intention to adopt digital wallets. The UTAUT model argues the moderating role of performance expectancy and behavioral intention. The age factor of

the users was more associated than the gender of the respondents with performance expectancy in the Nepalese context.

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