# Behavioral intentions towards the use of digital wallets

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## Abstract

The global financial ecosystem has been continuously transformed by digital transactions in today's technologically advanced world and electronic wallets have become essential to the lives of the increasing population. This study used a structured questionnaire and surveyed 606 bank customers in Yunnan, China, in order to examine the behavioral intentions on the use digital wallet. This study used partial-least square structural equation modeling to test five structural relationships. Findings showed that the respondent's perception on perceived ease of use, perceived usefulness, awareness of digital wallets, and behavioral intentions on the use of digitals wallets were described as high. In terms of correlational statistics, all constructs are correlated, however, it was noted that digital wallet awareness and perceived usefulness have the lowest correlation. Furthermore, in terms of regression model test, all paths (PEU>IU, PU>IU, PR>IUU, AW>IU, and IU > BI) were found to be statistically significant. This indicates that perceived ease of use, perceived usefulness, perceived ease of use, perceived risks, awareness, and intention to use significantly influence behavioral intention. Hence, all hypotheses set were significant and supported. Findings also suggest that Fintech companies may continue invest to making sure that e-wallets are less risky and finally, leveraging the continuous popularity on the use of digital wallets is a way to promote financial inclusity among the population of this region.

*Keywords:* E-wallet; Digital Payments; Behavioral Intentions; Fintech

*JEL Calassification Codes:* G20, G28, G29 G40, G41, G50, G53

# 1. Introduction

In the current digital era, behavioral intentions on using digital wallets have grown in importance. Understanding the elements that affect people's intentions to embrace and utilize digital wallets is essential for businesses and regulators as consumers depend increasingly on digital transactions and mobile devices. These intents are affected by several things, including perceived use, usefulness, risk, and awareness. Organizations may improve user acceptability and adoption of digital wallets by looking at and resolving these aspects, eventually changing how people make payments in the current world (Chen et al., 2022).

The attractiveness of digital wallets has dramatically increased especially in the USA and Europe, two technologically advanced regions with developed financial systems. In these locations, various elements, including user experience, convenience, security, and trust, significantly impact people's intention to adopt digital wallets. Companies and governments must have a thorough understanding of these aspects to successfully meet the demands and preferences of customers in the USA and Europe and promote the broad use of digital payment solutions (Sutticherchart & Rakthin, 2023).

China has taken the lead in adopting mobile payment methods around the globe, with digital wallets such as Alipay and WeChat Pay now holding the majority of the market share. The broad acceptance of digital wallets among Chinese consumers may be attributed, in large part, to the significant roles that factors like convenience, efficacy, social influence, and trust have played in the market. Businesses and governments need to understand these aspects if they wish to capitalize on the huge potential of the Chinese market and adapt to the requirements of tech-savvy customers (Zhang & Moon, 2013).

Digital wallets are becoming increasingly trendy in Yunnan, China, as most of the shoppers appreciate the ease and efficacy of mobile payments. Residents of Yunnan are using digital wallets for various and several transactions, including online shopping, e-payments, and peer-to-peer transactions, due to the rapid growth of smartphone usage and ubiquitous adoption of digital payment platforms. The widespread adoption of digital wallets in Yunnan has transformed how people manage their finances in the region because of their usability, seamless incorporation with daily activities, and the ability to conduct electronic transactions (Sina Finance, 2020).

Even though much research has been done on how people plan to behave when using digital wallets, there are gaps that this research would like to fill. First, by looking at the macro level and compared to tech city centers such as Shenzhen, Yunnan province is a developing region in China, and the adoption of digital technologies is slow; second, baby boomers and Generation X are

suspicious of using digital wallets because of security related issues; third, the hesitance and resistance of some consumers on using e-wallets may be attributed to lack of knowledge and understanding the benefits and advantages of e-wallets compared to the traditional one; and finally, studying the behavioral elements of using or not using e-wallets attracts low attention among scholars, especially among developing states. Hence, this study was proposed to shed light on why some people are still hesitant to adopt this technology. Exploring these gaps will lend a complete picture of the factors that affect consumers' behavioral intentions about using digital wallets as a substitute for cash.

# 2. Literature Review and Hypotheses Development

## 2.1 Digital Wallets

Nowadays, the expansion of the blockchain technology industry is in the 3.0 era. Digital wallets are a necessary match for the blockchain 3.0 stage. Judging from the increased number of users, digital currency is developing rapidly. According to the survey (CoinMarketCap data, 2018), as of August 2018, there are 1818 digital currencies in the world, and the total market value of global encrypted digital assets has reached 219.48 billion US dollars. From this, it can be predicted that after five years, the global data-encrypted digital assets total business will exceed \$100 million (IDC, 2021).

People may now securely store, manage, and transact with their digital assets using popular and practical financial technology called "digital wallets." Digital wallets have attracted much attention lately, thanks to the rise of smartphones and the growing reliance on digital payments. Anshari et al. (2021) concluded that the accessibility, convenience, and security digital wallets provide are the main factors influencing customer acceptance of these wallets. They also pointed out that the availability of value-added services, such as loyalty programs and mobile discounts, and integrating digital wallets with other payment systems have contributed to their rising popularity.

Guo & Yu (2022) proposed a secure payment wallet based on Fabric and designed digital wallets on different platforms to meet different transaction needs. Liu et al. (2020) proposed the formal verification of Ethereum token intelligent contracts, and He, Lin, Li, and Chen (2019) proposed based on the research of digital wallets on decentralized networks, the literature Chen et al. (2022) proposed research on blockchain transactions based on the UTXO model. The research and application of digital wallets are also constantly taking root and are widely used in the housing rental industry.

## 2.2 Perceived Ease of Use and Intention to Use

There has been substantial research on the link between perceived ease of use and intention to use in the context of technology adoption and acceptance. A person's subjective assessment of how simple it is to use and operate a technology is known as perceived ease of use. On the other side of the coin, the intention to use denotes a person's propensity or readiness to utilize a particular technology. When it comes to digital technologies like digital wallets, several researchers have looked at the positive effect of perceived ease of use on the intention to use. For instance, Venkatesh et al.'s (2016) study examined the factors affecting customers' adoption of mobile payment systems, such as digital wallets and the study showed that perceived ease of use had a significant positive effect on the consumer's intention to use, which implies that people are more likely to have a clear intention to accept and use a mobile payment system when they consider it simple to use and navigate.

Similarly, Liu et al. (2020) study on the adoption of digital wallets discovered a high positive association between perceived usability and the propensity to adopt. According to the survey, consumers are more likely to embrace and use new technology if they find it to be simple, intuitive, and user-friendly. Therefore, this study proposed that:

## H1: Perceived ease of use has a significant positive effect on intention to use.

## 2.3 Perceived Usefulness and Intention to Use

The term "perceived usefulness" describes a person's subjective assessment of how helpful and valuable they believe technology to be. On the other hand, acceptance intention denotes a person's propensity or readiness to utilize a specific technology. The effect of perceived utility on intention to use has been the subject of several research studies, particularly in digital technology like digital wallets.

For instance, a research by Kim, Mirusmonov, and Lee (2010) focused on digital wallets and mobile payment systems discovered a significant positive association between acceptance intention and perceived utility. According to the study, people are more likely to acquire an excellent desire to accept and utilize a mobile payment system if they believe it would help them with their financial activities.

Similarly, Zhang and Moon (2013) looked at what factors affected customers' willingness to accept digital wallets and discovered that perceived utility substantially impacted willingness to accept. The survey stressed that customers are likely to embrace and accept new technologies if they perceived digital wallets as practical tools for convenient and effective transactions. These results

are consistent with Davis' (1989) Technology Adoption Model (TAM), which contends that perceived utility is crucial in determining adoption intention. According to the Technology Adoption Model, consumers are more likely to acquire a favorable intention to utilize a technology if they believe it will help them accomplish their objectives and tasks. Therefore, this study proposed:

### H2: Perceived usefulness has a significant positive effect on on intention to use.

## 2.4 Perceived Risk and Intention to Use

The stage where people perceived the potential adverse effects or uncertainty related to using a new technology or product is referred to as perceived risk. Understanding how perceived risk affects acceptance intention is essential for companies and marketing people with the hope to encourage the adoption of cutting-edge technology. In their study, Kim, Mirusmonov, and Lee (2010) looked at the connection between acceptance intention and perceived risk in the setting of mobile payment systems. The empirical results suggested that customers' intentions to use mobile payment systems were highly caused by perceived risk, which included worries about security, privacy, and financial loss.

Beyond the world of financial technology, perceived risk affects intention to use in other contexts as well. Li et al. (2022) found perceived risk as a significant element in influencing consumer's propensity to utilize e-commerce services in research on adopting e-commerce platforms. The researchers discovered that customers' acceptance intentions are directly impacted by perceived risks connected to product quality, the reliability of online merchants, and transaction security. They also stressed the value of risk mitigation techniques in fostering trust and lowering perceived risks, such as strong security safeguards and open information disclosure. Therefore, this study proposed:

### H3: Perceived risk has a significant negative impact on intention to use.

## 2.5 Awareness on Digital Wallets on Intention to Use

Recent scholarship has paid much attention to the connection between awareness of digital wallets and acceptance intentions. According to studies, customers' intentions to embrace and utilize digital wallets are favorably influenced by greater knowledge of alternative payment options. For instance, a study on the acceptance of mobile payments discovered a correlation between customer acceptance intention and awareness of digital wallets. They highlighted the significance of educational programs and marketing initiatives in promoting awareness of and encouraging favorable views about digital wallets (Zhang & Moon, 2013). According to this study, raising

consumer knowledge of the features and advantages of digital wallets may favor their decision to adopt them. Additionally, the influence of awareness of digital wallets on acceptance intention goes beyond the context of mobile payments.

In another research done by Chen et al. (2022) on retail payments, higher levels of knowledge of these payment options favorably affected customer intentions to use digital wallets. The researchers stressed the necessity for clear and straightforward information on digital wallets to increase acceptance intention and the impact of marketing and communication initiatives in raising awareness. Thus, this paper puts forward the following hypothesis:

### H4: Digital wallet awareness has a significant positive impact on intention to use.

### 2.6 Intention to Use and Behavioral Intention

The literature has shown interest in the connection between acceptance behavior and acceptance intention for digital wallets. According to several research studies, positive acceptance intentions for digital wallets strongly predict actual acceptance behavior. For instance, Li et al.'s (2022) study on adopting mobile payments showed that individuals with excellent acceptance intentions were likelier to use digital wallets.

The researchers stressed the purpose of favorable attitudes and utility in promoting acceptance behavior. According to this study, those with a high level of acceptable behavior toward digital wallets have a higher possibility of using it in any financial transactions. Beyond the context of mobile payments, the influence of acceptance intention on acceptance behavior is also present. Adopting digital wallets in e-commerce was the focus of Li et al. (2022), where they have, they researched the connection between acceptance intention and behavior. Researchers discovered that customers' acceptance behavior when completing online purchases were highly impacted by their acceptance intentions toward digital wallets. This study highlights the importance of acceptance intention in predicting acceptance behavior. It shows that people who intend to accept digital wallets have a higher probability of using it in an online purchase. Hence, this paper puts forward the following assumption:

### *H5: The intention to use e-wallet has a significant positive impact on behavioral intention.*

## 2.7 Behavioral Intention towards Digital Wallets using PLS-SEM

Various researchers have used different approaches to examine the factors impacting consumer's behavioral intention towards the usage of digital wallets, which have gained popularity in recent years. The Partial Least Squares Structural Equation Modeling (PLS-SEM) method enables the

analysis of intricate interactions and latent components in a predictive framework, is one extensively used method. PLS-SEM has been utilized in many research to investigate behavioral intention toward digital wallets. For instance, Li et al. (2022) used PLS-SEM to evaluate the elements that impact customers' behavioral intention to use digital wallets. Their research showed that behavioral intention was highly impacted by perceptions of utility, usability, and security.

In a research done in a developed country, Fang et al. (2021) used PLS-SEM to look into the variables affecting customers' behavioral intentions toward mobile payment systems, including digital wallets. Their findings showed that behavioral intention was highly impacted by perceived usability, perceive ease of use, and perceived trust. The study highlighted the influence these elements play in influencing customers' decision to embrace and use digital wallets for their financial activities. These studies show the effectiveness of PLS-SEM in analyzing complicated interactions and identifying the major variables influencing behavioral intention to use digital wallets.

### 2.8 Theoretical Basis

To support the claims and hypotheses of this study, these two theoretical premises were utilized. First, the Theory of Planned Behavior (TPB) served as the main theoretical basis. Ajzen (1985) introduced the Theory of Planned Behavior (TPB) on the foundation of rational behavior. This theory primarily considers that several other circumstances will influence people's conduct. The connection between behavioral goals, behavioral attitudes, and actual conduct under challenging circumstances when behavior cannot be controlled entirely. The theory of planned behavior, based on rational behavior, adds perceived behavior as a new control component and contends that this factor will also influence a person's willingness to act, influencing actual conduct. The degree to which the behavior subject believes he has control over his conduct while he engages in it is referred to as perceived behavioral control. That is, both personal experience and anticipated challenges will impact the actor's will.

Second is Davis's Technology Acceptance Theory by Davis (1986) also served as another theoretical foundation of this investigation. This theory was used to describe and evaluate the scenario that arises after a person uses a product for a while, and it is primarily used to research the factors, such as attitude and intention, that influence the person's acceptance of the product after that person utilizes it.

Further, TAM proposed that when a person accepts a new product, the person will exhibit product usefulness and product usability, which are comparable to the two qualities of interest and usability in Rogers' five factors. This, in Davis' opinion, is a crucial factor. According to TAM, behavioral

intention determines system usage, behavioral intention is simultaneously driven by perceived usefulness and the attitude toward using it, and attitude towards using it further is determined by both perceived utility and ease of use. It is shown that perceived usefulness depends on both perceived usability and outside factors, whereas perceived usability depends on outside factors.

### 2.9 Hypothesized Model

This study hypothesized that the digital wallet must have numerous key components of the theory to be readily accepted and used by consumers. In light of the technology adoption model, this study generated the following hypothesized model, and the following framework was suggested based on literature review and theoretical analysis:

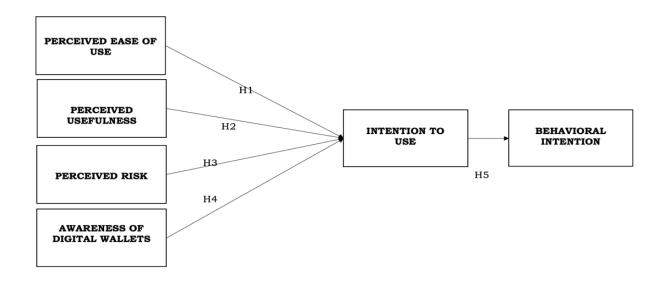


Figure-1. Hypothesized Regression Model

# **3. Design and Methods**

## 3.1 Research Design

This study explored behavioral intention toward using digital wallets among the residents in Yunnan, China. To realize this goal, a quantitative non-experimental research design was utilized. Before the study was carried out, the relevant literatures were comprehensively analyzed, and the research findings about the technology acceptance model and the influencing factors were taken into consideration. This type of non-experimental research design provides a sequential collection

of data in which no study variable was altered. In other words, variables were assessed naturally, free from human intervention. The absence of manipulation among the variables, in this case, may be due to the fact that the variables were already "manipulated" naturally prior to the study or because it would be impractical for the researchers to manipulate the study variables being considered (Mertler, 2014).

This survey research aimed to characterize a population's or group's characteristics (Fraenkel et al., 2012). It is primarily a quantitative research technique in which the researchers utilize a survey questionnaire to describe the attitudes, behaviors, opinions, or other characteristics (Creswell & Plano Clark, 2007) of the digital wallet users in Yunnan Region. Meanwhile, structural equation modeling (SEM) was employed as this study aimed to assess and explain study outcomes. SEM is a multivariate analytic method that may consider the connection between several possible factors simultaneously. Researchers can do model comparisons and adjustments, evaluate the path coefficients across variables, and confirm the fit of the study model using this statistical approach (Ullman & Bentler, 2012).

### 3.2 Sources of Data

The primary data of this paper comes from a questionnaire survey. The questionnaire was carried out to the users of digital wallets in in the Region. Participants in the study were adults (primarily of legal age) and the survey was distributed among the bank customers in 10 districts of Yunnan Province, China. The selection of participants covered the groups of different ages, genders, occupations and education levels to ensure representativeness and generalizability of results. A total of 606 bank customers were considered in this study.

## 3.3 Data Gathering Instrument

This study designed a questionnaire with questions related to behavioral intention toward using digital wallets. The questionnaire was translated into Chinese and distributed to respondents in the Yunnan region through online survey platform (WeChat Questionnaire Mini Program). The survey questionnaire used in this study emanated from various published works. The questions for each construct were taken from the following validated scales of the following published references:

Construct	Source			
Perceived Ease of Use	Venkatesh, Thong, & Xu (2016)			
Perceived usefulness	Venkatesh, Thong, & Xu (2016)			
Perceived Risk	Rehman, Omar, Zabri, & Lohana (2019)			
Awareness on Digital Wallets	Chawla & Joshi (2019)			
Intention to Use	Zhou, 2011; Humbani & Wiese (2019)			
Behavioral Intention Venkatesh	n et al., 2003; Venkatesh, Thong, & Xu (2016)			

Table-1. Source of Items in Survey Questionnaire

## 3.4 Sampling Technique

In order to obtain a sufficient sample size, this study used Purposive Proportionate Sampling (Saldaña, 2013) to select a representative sample from the clients of 10 branches of Yunnan Hekou Rural Commercial Bank. This technique includes deciding whom to include based on requirements and ensured that the sample is representative of the target population. A total of 606 bank customers in the entire region participated in the survey.

### 3.5 Procedure of the Study

The following sequence of activities was performed throughout the course of this research undertaking:

*Literature review and Hypotheses Development.* First the researcher carefully sorted out domestic and foreign academic papers, journals, and monographs on digital wallets and technology acceptance models, the research topics of the articles were clarified, the research path was determined.

*Questionnaire Development and Administration*. The questionnaire was then crafted and reviewed considering it was it was lifted from different sources. The combined adapted questionnaire was tested through the relevant validity tests. After passing the small-sample test, a formal survey was conducted using purposive proportionate sampling.

*Data Collection.* The researchers sought an approval from the bank manager of each branch to allow the researchers to ask bank customers to complete the survey whenever it is convenient for

them. After the approval, the researchers then distributed the links to survey to the intended survey participants.

*Empirical Analysis and Interpretation*. The collected questionnaires were analyzed by SPSS data processing software to ensure the rationality and validity of the results. Through reliability and validity analysis, correlation analysis and regression analysis, the research hypotheses and conceptual model of this paper were verified.

# 4. Results

## 4.1 Measurement Model Analysis

In this study, the measurement model comprised the following items: item reliability, convergent, and internal consistency. As shown in Table 3, the minor loading is 0.605, while the highest loading is 0.803. Both values surpass the threshold level of 0.50, as Sarstedt, Ringle, and Hair (2021) suggested. As described by Chin (2010), to evaluate the internal consistency, two measures were used: Cronbach's alpha ( $\alpha$ ) and composite reliability (CR).

In addition, Sarstedt, Ringle, and Hair (2021) recommend a value of  $\alpha$  greater than 0.70 for the construct to be considered acceptable. Table 3 displays that the Cronbach alpha values range from 0.870 to 0.887, surpassing the threshold of 0.70. Likewise, the criterion for CR is also set at >0.70. The obtained CR values in Table 3 range from 0.710 to 0.864, satisfying the threshold criteria. Hence, both indicators demonstrate satisfactory internal consistency and reliability. The convergent validity assesses the extent to which a construct measures the same concept; this study computes the average variance extracted (AVE). The values of the average variance extracted ranges from 0.550 to 0.630, meeting the threshold criteria established by Sarstedt, Ringle, and Hair (2021) of having a value greater than 0.50.

Construct	Item	Factor	AVE	CR	α
		Loading			
	PEU1	.720			
	PEU2	.776			
Perceived Ease of Use	PEU3	.759	.560	.864	.880
	PEU4	.710			
	PEU5	.775			
	PU1	.759			
	PU2	.750			
Perceived Usefulness	PU3	.722	.550	.830	.879
	PU4	.735			
	PR1	.657			
	PR2	.654			
Perceived Risk	PR3	.666	.555	.710	.870
	PR4	.656			
	PR5	.699			
	AW1	.608			
	AW2	.670			
Awareness on	AW3	.663	.578	.814	.887
Digital Wallets	AW4	.605			
C	AW5	.681			
	AW6	.664			
	IU1	.659			
	IU2	.658			
Intention to Use	IU3	.670	.551	.803	.872
	IU4	.678			
	IU5	.686			
	BI1	.803			
Behavioral Intention	B12	.794	.630	.836	.870
	BI3	.785			

#### Table-2. Items and Construct Reliability

#### 4.2 Structural Model Analysis

#### Descriptive and Correlational Analysis

Presented Table 4 is the descriptive statistics of the constructs using mean and standard deviation. Also shown in this table is the correlational analysis, which was done using the latent correlational matrix on PLS. As shown, the overall mean for all variables ranges from 3.27 to 3.98, and the standard deviation ranges from .812 to .943. Based on the means scores, perceived ease of use, perceived usefulness, and awareness level were described as high, which means that the customer's

expectation about e-wallets based on these elements are satisfactory, and the likelihood (3.53) to use the e-wallet is highly possible. However, it can be seen that perceived risk obtained the lowest mean (3.27), which signifies that customers are still doubtful about the security features of the e-wallets.

Furthermore, the correlation coefficients among the latent constructs are also reflected in this table, where the correlation values range from .204 to .509. This study classified the correlation as low, moderate, and strong. Coolidge (2006) and Field (2005) set the threshold for correlation values where a correlation score of .10 is considered as "low correlation," a correlation coefficient of .30 is labeled as "medium correlation," and a correlation value of .50 and above represent "strong correlation." One strong correlation is between perceived ease of use and behavioral intention (.509), which is anticipated from a customer expecting that e-wallets are easy to use and navigate through the cellular phone.

Construct	Mean	SD	PEU	PU	PR	AW	IU	BI
PEU	3.98	.812	1.00	.258	.342	.319	.272	.509
PU	3.46	.943	.258	1.00	.228	.204	.246	.360
PR	3.27	.931	.342	.228	1.00	.213	.279	.438
AW	3.71	.854	.319	.204	.213	1.00	.219	.411
IU	3.53	.907	.272	.246	.279	.219	1.00	.451
BI	3.81	.903	.509	.360	.438	.411	.451	1.00

**Table-3. Descriptive and Correlational Statistics** 

*Note. N*=606

The lowest correlation was between digital wallet awareness and perceived usefulness (.204). One possible explanation is that, while a customer is aware of digital wallets, the customer may need to learn their perceived usefulness, especially if such a customer has no prior or even experience of using the service. This idea somehow parallels the concepts expressed by Carrero and Valor (2012), who posited that 'labels of products may increase awareness, but it may not always result in a purchase decision.' So, in this case, brands of e-wallets may be known to the customers but appreciating their usefulness will depend on when the service is experienced.

### 4.3 Regression Model Test

This portion of the study displays the structural model, which tested the research hypotheses. The researchers utilized the Smart-PLS software in processing the data. For the first path, perceived ease of use towards intention to use, statistics showed that the p-value is less than the threshold value of 0.05, which means that perceived ease of use is related to intention to use. Similar to other paths,  $PU\geq IU$  (p<.000),  $8PR\geq IU$  (p<.000),  $AW\geq IU$  (p<.000), and  $IU\geq BI$  (p<.000) since the p-values are all less than 0.05, all are positively related, hence, H1, H2, H3, H4, and H5 are supported.

Also shown in the table below are the respective regression estimates per path, corresponding to the influence's strength. As shown, the strongest influence was the path from IU $\geq$ BI, as evidenced by a regression estimate of .449, and the path AW $\geq$ IU showed the weakest influence (.113), which may be attributed to the fact that the three elements, namely PEU, PU, and PR and could be the most important aspect for Chinese customers in deciding to use e-wallets.

Pat	ths		Estimates	SE	<i>p</i> -value	Decision
PEU	>	IU	.157	.047	0.008**	Supported
PU	>	IU	.142	.038	0.000**	Supported
PR	>	IU	.170	.040	0.000**	Supported
AW	>	IU	.113	.043	0.000**	Supported
IU	>	BI	.449	.036	0.000**	Supported

**Table-4. Hypotheses Testing** 

*Note*.\*p < 0.01, \*\*p < 0.05, PEU>Perceived ease of use; PU>Perceived usefulness; PR>Perceived risk; AW>Awareness on Digital Wallets; IU> Intention to use; BI> Behavioral Intention

Shown in Figure 2 is the hypothesized model fit, which reflects the regression estimates for each path identified. The first path, perceived ease of use toward intention to use, has a regression estimate of .16, which was earlier described as significant. Zhou (2011) contended that users' perceived ease of use significantly and positively affects their use attitude, and users' use attitude has a significant positive impact on their intention to use. Supporting this findings, Hau, Nhung, and Trang (2021) concluded that customer's perceived ease of use of virtual services could significantly predict their intention to use.

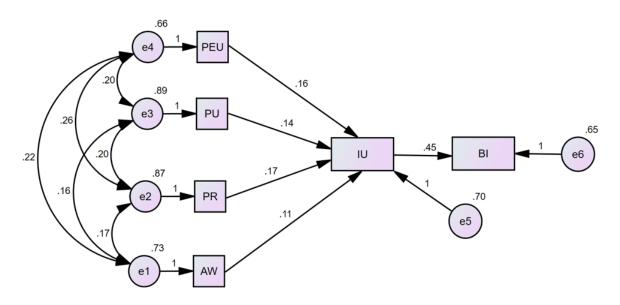


Figure-2. Hypothesized Model Fit in Standardized Values

*Note.* Chi square=246.732; Chi square/df=61.683; df=4; *p*=.000; pclose=.000; RMSEA=.317; CFI=.642, TLI=-.342; NFI=.644 ; IFI.648; AIC=280.732

Second, for the second path, perceived usefulness has a regression estimate of .14 and was positively related to intention to use. Research by Kim, Mirusmonov, and Lee (2010) focused on digital wallets and mobile payment systems discovered a substantial positive association between acceptance intention and perceived utility. People are more likely to acquire an excellent desire to accept and utilize a mobile payment system if they believe it would help them with their financial activities. Zhang and Moon (2013) also stressed that customers are likelier to embrace and adopt new technologies when they believe digital wallets are practical instruments for convenient and effective transactions.

For the third path, perceived risk towards intention to use showed a positive relationship. The regression estimate is .17. Just recently, Hau, Nhung, and Trang (2021) showed that customers' intentions to use mobile payment systems or electronic wallets were highly impacted by perceived risk, which included worries about security, privacy, and financial loss. In addition, Li et al. (2022) found perceived risk as a critical factor influencing customers' propensity to utilize e-commerce services, and customers' acceptance intentions are directly impacted by perceived risks connected to product quality, the reliability of online merchants, and transaction security.

The fourth path, awareness of digital wallets towards intention to use, also showed a positive relationship and the regression estimate of .11. Customers' intentions to embrace and utilize digital wallets are favorably influenced by greater knowledge of alternative payment options. Zhang & Moon (2013) highlighted the significance of educational programs and marketing initiatives in promoting awareness of and encouraging favorable views about digital wallets. According to this study, raising consumer knowledge of the features and advantages of digital wallets may favor their decision to adopt them. Chen et al. (2022) further stressed the necessity for clear and straightforward information on digital wallets to increase acceptance intention and the impact of marketing and communication initiatives in raising awareness.

Lastly, the direct relationship between intention to use and behavioral intention has a regression estimate of .45. Positive acceptance intentions for digital wallets strongly predict actual acceptance behavior. For instance, Li et al. (2022) posited that individuals with excellent acceptance intentions were more likely to use digital wallets. The researchers stressed the role of favorable attitudes and perceived utility in promoting acceptance behavior. In a similar tone, Wang et al. (2023) discovered that customers' acceptance behavior/behavioral intention when completing online purchases were highly impacted by their acceptance intentions toward digital wallets.

# 5. Conclusion

Based on the results, the researchers concluded that the respondent's perception on *perceived ease* of use, perceived usefulness, awareness of digital wallets, and behavioral intentions on the use of digitals wallets were described as high, however, respondent's perception about perceived risk factor appears to be low. In terms of correlational statitistics, all constructs are correlated, however, it was noted that digital wallet awareness and perceived usefulness have the lowest correlation. Furthermore, in terms of regression model test, all paths, PEU>IU, PU>IU, PR>IUU, AW>IU, and IU > BI were found to be statistically significant. This indicates that perceived ease of use, perceived usefulness, perceived ease of use, perceived risks, awareness, and intention to use significantly influence behavioral intention. Hence, all hypotheses set were supported.

# 6. Managerial Implications

The findings of this study provide valuable insights about the willingness of digital wallets users in Yunnan Province, China. The research contributes to the existing literature on technology acceptance and provides a comprehensive model for understanding the factors influencing behavioral intentions toward digital wallet usage. The high level of perceived ease of use, perceived usefulness, and awareness of digital wallets suggest that Fintech companies may

maintain the credibility of these features to maintain the customers' trust. Fruther, findings also suggest that Fintech companies may invest more to ensure that e-wallet is less risky. One good strategy is to invest in studying and developing software that would complement existing digital wallets' security features. This may be necessary to ensure that the app is safe to use, and while risks may not be gone, the company could make sure that the protection of the customer's money is a top priority to avoid eroding their trust and confidence. On the policy side, strict adherence to the existing data privacy laws must be ensured to protect the public's interest. These findings can benefit policymakers, businesses, and researchers in digital payments, as they shed light on the key dimensions that need to be considered to promote the adoption and usage of digital wallets in the region.

Second, the positive correlation among the constructs considered in this study may be the basis for e-wallet companies to consider strengthening these pillars as they may help in the total adoption of e-wallets among the population of Yunnan.

Third, Fintech companies and affiliated financial institutions may also see the need to enhance and expand the usefulness of e-wallets and may add other services such as insurance, short-term loans, and personal finance monitoring. This way, e-wallets fulfill more than just a single role. Instead, they promote financial inclusivity among the population of Yunnan.

Lastly, there may be a need to continuously improve the user interface, make the e-wallets userfriendly, and provide clear instructions to improve the perception of ease of use. This could be the best way to capture the attention of the late majority and laggards to utilize this innovative effort which directly contributed to Yunnan, China's economic and social development.

# References

- Ajzen, I. (1985). From intentions to actions: A theory of planned behavior. In *Action control: From cognition to behavior* (pp. 11-39). Berlin, Heidelberg: Springer Berlin Heidelberg.
- Anshari, M., Arine, M. A., Nurhidayah, N., Aziyah, H., & Salleh, M. H. A. (2021). Factors influencing individual in adopting eWallet. *Journal of Financial Services Marketing*, 26, 10-23.
- Carrero, I., & Valor, C. (2012). CSR-labelled products in retailers' assortment: A comparative study of British and Spanish retailers. *International Journal of Retail & Distribution Management, 40*(8), 629-652.
- Chawla, D., & Joshi, H. (2019). Consumer attitude and intention to adopt mobile wallet in India–An empirical study. *International Journal of Bank Marketing*, *37*(7), 1590-1618.
- Chen, Z., Zhu, L., Jiang, P., Zhang, C., Gao, F., He, J., ... & Zhang, Y. (2022). Blockchain meets covert communication: A survey. *IEEE Communications Surveys & Tutorials, 24*(4), 2163-2192.

- Chin, W. W. (2009). How to write up and report PLS analyses. In *Handbook of partial least squares:* Concepts, Methods and Applications (pp. 655-690). Berlin, Heidelberg: Springer Berlin Heidelberg.
- CoinMarketCap. (2018). *Digital Currencies in the World*. Retrieved from https://coinmarketcap.com/historical/
- Coolidge, F. L. (2006). Statistics: A gentle introduction (2nd ed.). Thousand Oaks, CA: Sage.
- Creswell, J. W., & Plano Clark, V. L. (2007). Designing and conducting mixed methods research. SAGE Publications.
- Davis, F. D. (1986). A technology acceptance model for empirically testing new end-user information systems: Theory and results (Doctoral dissertation). MIT Sloan School of Management.
- Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 13(3), 319-340.
- Fang, C. C., Liou, J. J., Huang, S. W., Wang, Y. C., Huang, H. H., & Tzeng, G. H. (2021). A hybrid, datadriven causality exploration method for exploring the key factors affecting mobile payment usage intention. *Mathematics*, 9(11), 1185.
- Field, A. (2005). Discovering statistics using SPSS (2nd ed.). London: Sage.
- Fraenkel, J. R., Wallen, N. E., & Hyun, H. H. (2012). *How to design and evaluate research in education* (8th ed.). McGraw-Hill.
- Guo, H., & Yu, X. (2022). A survey on blockchain technology and its security. *Blockchain: research and applications*, *3*(2), 100067.
- Hau, H. T., Nhung, D. T. H., & Trang, P. H. (2021). An empirical analysis of factors affecting the intention of using digital wallets in Vietnam. *Journal of International Economics and Management*, 21(1), 86-107.
- He, X., Lin, J., Li, K., & Chen, X. (2019). A novel cryptocurrency wallet management scheme based on decentralized multi-constrained derangement. *IEEE Access*, 7, 185250-185263.
- Humbani, M., & Wiese, M. (2019). An integrated framework for the adoption and continuance intention to use mobile payment apps. *International Journal of Bank Marketing*, *37*(2), 646-664.
- IDC. (2021). *The Rise of Digital Assets*. Retrieved from https://www.idc.com/getdoc.jsp?containerId=lcUS50852323
- Kim, C., Mirusmonov, M., & Lee, I. (2010). An empirical examination of factors influencing the intention to use mobile payment. *Computers in Human Behavior*, 26(3), 310-322.
- Li, G., Liang, Y., Wang, H., Chen, J., & Chang, X. (2022). Factors influencing users' willingness to adopt connected and autonomous vehicles: Net and configurational effects analysis using PLS-SEM and FsQCA. *Journal of Advanced Transportation*, 2022.
- Liu, Y., Li, Y., Lin, S. W., & Zhao, R. (2020, November). Towards automated verification of smart contract fairness. In Proceedings of the 28th ACM Joint Meeting on European Software Engineering Conference and Symposium on the Foundations of Software Engineering (pp. 666-677).
- Mertler, C. A. (2014). *Introduction to educational research: A critical thinking approach*. SAGE Publications.

- Rehman, Z. U., Omar, S. S. B., Zabri, S. B. M., & Lohana, S. (2019). Mobile banking adoption and its determinants in Malaysia. *International Journal of Innovative Technology and Exploring Engineering*, 9(1), 4231-4239.
- Saldaña, J. (2013). The Coding Manual for Qualitative Researchers. SAGE Publications.
- Sarstedt, M., Ringle, C. M., & Hair, J. F. (2021). Partial least squares structural equation modeling. In *Handbook of market research* (pp. 587-632). Cham: Springer International Publishing.
- Sina Finance. (2020). Yunnan mobile payment usage statistics report. Retrieved from https://finance.sina.com.cn/
- Sutticherchart, J., & Rakthin, S. (2023). Determinants of digital wallet adoption and super app: A review and research model. *Management & Marketing*, 18(3), 270-289.
- Ullman, J. B., & Bentler, P. M. (2012). Structural equation modeling. In *R. H. Hoyle (Ed.), Handbook of structural equation modeling* (pp. 1-16). The Guilford Press.
- Venkatesh, V., Davis, F. D., & Morris, M. G. (2003). User acceptance of information technology: Toward a unified view. *MIS Quarterly*, 27(3), 425-478.
- Venkatesh, V., Thong, J. Y., & Xu, X. (2016). Unified theory of acceptance and use of technology: A synthesis and the road ahead. *Journal of the Association for Information Systems*, 17(5), 328-376.
- Zhang, R., & Moon, T. (2013). An Empirical Study on User Acceptance of Mobile Payment in China: Based on UTAUT Model. 인터넷전자상거래연구, 13(2), 187-215.
- Zhou, T. (2011). An empirical examination of continuance intention of mobile payment services. *Decision Support Systems*, 52(2), 486-495.