

Does Government Policy Affect Mobile Wallet Adoption?

Empirical Evidence from North Gujarat Region

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Abstract

This study examines key factors affecting customers' intentions to use mobile wallets in the context of the North Gujarat Region by integrating govt. The policy is one of the critical variables in TAM (Technology Acceptance Model). An exploratory research design is applied and collected 187 valid online responses through a structured questionnaire as per a simple random sampling method.

For testing hypotheses, multiple regression analysis is performed. This study's findings indicated that government policy perceived ease of use, and perceived Usefulness positively affects customers' Intention to use a mobile wallet in North Gujarat Region. This study provides useful insights into the policymakers, mobile wallet service providers, and govt. To formulate strategies for the promotion of m-wallet usage among more and more customers. The limitations of this study provide the scope for future research studies

Key words: Govt. policy, Intention to use, Mobile wallet, North Gujarat, TAM

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1. Introduction

The continuous advancement in financial technology is an innovative technology compare to traditional financial services. Recently, financial technology uses mobile phones as a means very close to the customer. This mobile technology, like smartphones, many functions are useful for both the financial service sector and humans who use it. Smartphones are used as communication devices such as a socializing tool, entertainment tool, internet access tool, and payment tool. Due to technological advancement, mobile users can use their smartphones to make money transactions or payments using applications installed on the phone. When smartphones can function as leather wallets, it is called "digital wallet" or widely known as "mobile wallet" (Rathore, 2016). Demonetization by the Indian government also gave a push to these wallets. The Government of India has also introduced a mobile wallet called Bharat Interface for Money (BHIM) to encourage its citizens to use digital payments.

According to RBI, there are four types of mobile wallets in India. The open wallet is one type of wallet that allows users to buy goods and services, transfer funds, and withdraw cash at ATMs or banks. This service can be jointly launched with a bank. It allows its various users to send money to any mobile number bank account. Examples of these mobile wallets are M-Pesa by Vodafone, pockets by ICICI bank, PayPal, and Amazon Pay. A semi-open wallet is associated with a specific company. The user can load money in some applications and spend it. Semi-closed wallets are in high demand by merchants with the limitation that they do not provide redemption or withdrawals. This wallet allows you to buy goods and services from listed merchants, thereby opening an account in your name. An example of these wallets is Paytm App and Citrus App. Closed wallets are the most popular wallets. Specifically, amongst e-commerce companies, some amount is reserved with the merchants in case of return or cancellation of the product.

A mobile wallet is a digital equivalent to the physical wallet in which we carry money. It is a virtual wallet in our smartphone, in which money is stored in the form of virtual money. A mobile wallet is a way to carry your debit or credit card in a digital format on

your mobile device. A user needs to make an account with a mobile wallet provider. After this, money is added to the 'mobile wallet' account using debit, credit, online transaction from the bank account, or cash. It is easy and convenient as the user just needs to sign in to the account and make the payment. A mobile wallet is also known as mobile money, mobile money transfer, and mobile payment. According to RBI, there are four types of mobile wallets in India,

1.2 Top Five Mobile Wallets in India

Paytm is one of India's most popular mobile wallets that offers users an online payment platform for secure transactions, which is launched in 2010. With the Paytm mobile wallet's help, one can do an online payment, online shopping, ticket bookings, mobile recharge, etc. Mobikwik is the fastest growing digital wallet system founded by Bipin Singh and Upasana Taku in 2009. Similar to other wallets, it helps to recharge, make third-party purchases, and pay utility bills. Oxigen, a FinTech company founded in July 2004, is a pretty safe and reliable mobile wallet compared to others.

Oxigen is one of the foremost providers of digital payment in India. Along with making an online purchase and paying bills, you can also send gift cards or coupons to your friends, relatives, or family members as an extra feature offered by this wallet. It was founded in 2010 by the parent organization AXIS bank headquartered in Gurgaon by Kunal Shah and Sandip Tandon (Freecharge technologies, 2015). One of the unique features of freecharge is donating money to the registered NGOs and allowing you to make prepaid, post-paid, DTH, bill payment, and more in a few clicks. Citrus pay is one of the top wallets in India. It is the fast-growing online payment solution that offers a one-tap transaction, payment provider, and other aspects. It offers a citrus wallet for the customer as well as payment solutions to businesses.

1. Review of Literature

Nowadays, mobile wallet plays an important role in every life. An increasing number of people are utilizing their mobile phones for money transfer, paying the bill, ticket booking,

trade, commerce, etc. daily. This has led to rapid growth in the development of various mobile wallet models and systems. Major research efforts were undertaken in recent years for the growth, adoption of the mobile wallet. Current research on mobile wallets mainly focuses on Intention the mobile wallet's Intention, which affects the use of the mobile wallet. This section highlights some prior research conducted in mobile wallets at the world, India, and the Gujarat level.

Wong et al. (2019), in their research on consumer intention of mobile payment in Hong Kong, found that Hong Kong citizens generally accepted mobile payment, but mobile payment has not yet become widely used in daily life. For this, they have surveyed 121 sample respondents. Perceived ease of use (PEOU), perceived Usefulness (PU), perceived risk (PR), perceived trust (PT), and perceived security (PS) were determined to be significant, and it affects the Intention to use mobile payment. Perceived security and perceived trust had strongly related. Moreover, perceived security and perceived Usefulness were the main factors affecting consumer intention to use mobile payment.

An empirical study by Liu & Tai (2016) on factor affecting Intention to use mobile payment services in Vietnam with valid responses from 604 sample respondents from various companies, universities, schools as well as direct interviews depicted that among four external variables, compatibility has a strong influence on ease of use and perceived Usefulness is found to be a positive impact on the Intention to use M-payment and also highlighted that trust and safety have no direct impact on Usefulness, but it has a direct impact on the Intention to use mobile payment.

In India, Pankaj Yadav (2017), in his study about deciding active determinants for adopting mobile wallets, based on sample responses from 350 people from all south, east, west, and north in India, revealed that perceived Usefulness positively influences the Intention to adopt mobile wallet. As the Usefulness of mobile wallet perceived by customers is positively related to mobile wallet adoption, banks and other stakeholders should publicize the multifarious benefits of the digital payment method to a large extent, which would increase mobile wallet subscription services.

The research by Rana (2017) on examining preference towards mobile wallets among university students in Lucknow has taken valid responses from 100 students studying in undergraduate, postgraduate, and Ph.D. programs of various universities in Lucknow. He found that most respondents prefer to use a mobile wallet for recharge, followed by paying bills and transferring money. Queue avoidance, time and place independent purchase, and instant payments are the three important factors for the students to opt for mobile wallets.

Patel, V. V. (2016), in his empirical research in Ahmedabad city to know young consumers' Intention to use mobile wallet services using the UTAUT Model. For this, 274 target respondents from undergraduate students between the ages group 18 - 22 were considered. It is observed that facilitating conditions has significant and positive effects and a non-significant social influence on Intention to use mobile wallet services.

For analyzing determinants affecting Intention to use mobile payment services, Javiya, V. (2018) has taken 180 samples through a structured questionnaire. It was noticed that respondents gave a high performance on service when using mobile payment services compared to other payment options. However, perceived risk related to security and other issues retarded their Intention to use different financial institutions' mobile payment services. Moreover, he recommended increasing consumers' awareness of the advantages associated with the use of mobile payment services.

1.1 Theoretical Research Model with Hypotheses Development

There are various models to determine the adoption intention to use new technology usage. 'Technology Acceptance Model' developed by Davis (1989) to identify behavioral factors leading to new technology is the most popular model. In the TAM model, various factors like perceived Usefulness, perceived ease of use, attitude, and behavioral Intention measures the user's Intention. Moreover, there are various other models viz. Theory Reasoned Action (TRA) by Fishbein and Ajzen (1975) and Theory Planned Behaviour (TPB) by Ajzen (1985) for the adoption, acceptance, attitude toward use, Intention to use, etc.

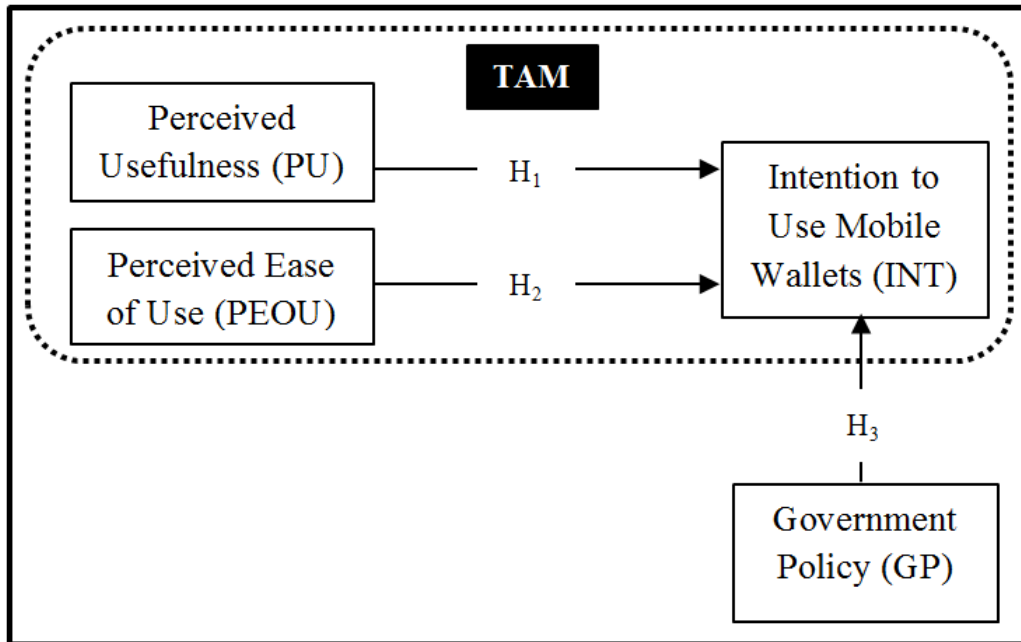


Figure I: Theoretical Research Model

In this study, a theoretical model for examining factors affecting Intention to use mobile wallets in the North Gujarat region includes two TAM variables: 1) Perceived Usefulness 2) Perceived Ease of Use and added one more variable: 3) Government Policy.

1.1.1 Intention to Use Mobile Wallet

The Intention is referring to the situation where an individual can engage in a certain activity. Intention helps to set up a framework for an individual to choose the priorities and utilize the resources to in engaging certain activity. Ajzen (1991) defined the Intention as the willingness and the effort that an individual is willing to attain their goal. Once the Individual has the Intention to use such a technology, the Individual will tend to take action. Mafé et al. (2010) intentions show motivational factors that influence behavior and are indicators of how hard people are willing to try and the effort they put into engage in a behavior and also found that behavioral Intention is to be the main factor of individual mobile services usage and that usage intentions are rational indicators of future system use. In this study, Intention to use such a mobile wallet technology, a

person has different Intention to use a mobile wallet. This research study has taken three factors that possibly affect individual Intention to use a mobile wallet.

1.1.2 Perceived Usefulness (PU)

Perceived Usefulness is the degree to which a person believes that using a particular system would enhance their job. Also found that perceived Usefulness has a significant effect on Intention to use mobile payment system, Davis (1989). That means easy to use and also useful in everyday life of individuals. Perceived Usefulness in the context of mobile wallets will enhance their productivity and performance in making payment. S. Zarrin Kafsh (2015) found that the perceived Usefulness is a significant predictor in Intention to use of the mobile wallet. Awamieh and Fernandes (2005) analyze perceived Usefulness is that the new series will offer more advantages than traditional services to individuals' Intention to use it. Based on this, the following hypothesis is formulated:

H₁: Perceived Usefulness positively affects customers' Intention to use a mobile wallet in North Gujarat Region.

1.1.3 Perceived Ease of Use (PEOU)

Perceived ease of use defines a degree to which a person believes that using a particular system will be free of effort, Davis (1989). Many people are familiar with using mobile phones; for them, mobile wallets may be new. Such as performing a financial transaction through a mobile wallet might be difficult for a new user. If the system is easy and simple to use and understand, it will greatly impact the use of this system (Childers et al., 2001). When mobile wallet users perceive comparatively high ease of use, they will be more likely to recognize mobile wallet payments' convenience and try to different mobile wallet services, experiencing a higher level of Usefulness. Chen (2008) found that perceived ease of use has a direct impact on an Individual's intentions to adopt a mobile wallet. Based on this, the following hypothesis is formulated:

H₂: Perceived ease of use positively affects customers' Intention to use a mobile wall directly impacts the region.

1.1.4 Government Policy (GP)

Government policy regarding make digital India that means to make digital payment. In India, after demonetization, digital payment has increased. India's dramatic demonetization initiative in late 2016 triggered an equally extraordinary uptake of mobile payments. The govt. policy regarding digital payment through mobile wallets also has become cleared. Govt. also launched a mobile wallet such as a Bharat interface for money (BHIM), Unified Payments Interface (UPI). This wallet also gives a discount and cashback offer for digital transactions. Govt. also inspire Individual to use the mobile wallet and make digital transactions. Based on the multiple initiatives by govt., it is believed that govt. It also contributes to the adoption of mobile wallets in India and factors affecting the Intention to use a mobile wallet. Based on this, the following hypothesis is formulated:

H₃: Government policy positively affects customers' Intention to use a mobile wallet in North Gujarat Region.

2. Research Methodology

2.1 Objectives of the Study

- 1) To examine key factors affecting intentions to use mobile wallets in the context of the North Gujarat Region
- 2) To clarify which factor is the major factor affecting m-wallet adoption

2.2 Research Design:

This study has applied a cross-sectional descriptive research design.

2.3 Area of the Study:

This study has been carried out in the area of North Gujarat Region.

2.4 Sampling Unit:

The sampling unit of this study includes Individual who was/is using a smartphone and also a mobile wallet for online payment.

2.5 Sampling Method:

This study has applied a simple random sampling method for data collection.

2.6 Sampling Size:

In this study, 225 smartphone users using mobile wallets were approached from which 187 valid responses were considered after removing missing values and inappropriate data, thus received an 83.11% response rate from the respondents surveyed.

2.7 Data Collection:

In this study, data collection through primary data and secondary data.

1) Primary Data:

This study has collected primary data through structured questionnaires divided into two sections: Section I: Demographic profile of the respondents, Section II: Constructs affecting intentions to use m-wallet. The link to the research questionnaire was sent via email, WhatsApp, Facebook, etc. to the people residing in North Gujarat Region who are/were using a smartphone and a mobile wallet for online payment.

2) Secondary Data:

Secondary data used in this study is procured from research journals, various websites; articles published in periodicals dealing with the given topic; magazines, survey reports, etc.

2.8 Data Analytical Tools:

This study has applied frequency, percentage, reliabilities statistics, and multiple regression analysis to analyze primary data using SPSS version 20.

3. Data Analysis and Interpretation

3.1 Demographic Profile of the Respondents

The respondents' demographic profile viz. gender, age, education, occupation, monthly income, internet usage experience, mobile wallet usage experience, and mobile wallet app using for online payment are depicted in table I. Out of 187 responses, 67.91% (127) are male, and 32.09% (60) are female respondents. Across the sample, 74.33 % (139) are from the 21-30 years age group, 19.25% (36) are from 31-40 years age group, 5.35% (10) are from the 41-50 years age group, and 1.07% (2) is from above 50 years' age bracket. A total of 10.16% (19) respondents have education up to high school, 51.87% (97) have a bachelor's degree, 31.55% (59) acquired master's degrees, and 6.42% (12) achieve a professional degree.

Moreover, 34.22% (64) samples are students, 8.02% (15) businessman, 12.30% (23) are govt. employees, 33.16% (62) private employees, 9.09% (17) self-employed and 3.21% are housewife. Considering monthly income as important variable, 75.40% (141) respondents have monthly income less than Rs. 30,000, 19.79% (37) respondents have monthly income Rs. 30,001 - Rs. 60,000, 1.07% (2) has monthly income between Rs. 60,001 - Rs. 90,000 and 3.74% (7) have monthly income above Rs. 90,000.

Regarding internet usage experience, 8.56% (16) respondents have less than one year, 26.20% (49) have 1-3 years, 26.74% (50) have 4-6 years, and 38.50% (72) has more than six years. Keeping in mobile wallet usages experience, 8.56% (16) respondents have less than one year, 47.59% (89) have 1-3 years, 17.11% have 4-6 years, and only 7.49% (14) respondents have more than 6 years' experience. Lastly, 35.29% (66) respondents use Google pay, 18.18% (34) use PAYTM, 29.95% (56) use PhonePe and 16.18% (31) use any other mobile wallet for online payment.

Table I: Demographic Profile of the Respondents (n = 187)

Demographic Variable	Category	Frequency	Percentage
Gender	Male	127	67.91
	Female	60	32.09
Age (in years)	21 - 30	139	74.33

	31 - 40	36	19.25
	41 - 50	10	5.35
	Above 50	2	1.07
Educational Qualification	High School	19	10.16
	Bachelor Degree	97	51.87
	Master Degree	59	31.55
	Professional Degree	12	6.42
Occupation	Student	64	34.22
	Businessman	15	8.02
	Govt. Employee	23	12.30
	Private Employee	62	33.16
	Self Employed	17	9.09
	House Wife	6	3.21
Monthly Income (in Rs.)	Less than 30,000	141	75.40
	30,001 - 60,000	37	19.79
	60,001 - 90,000	2	1.07
	Above 90,000	7	3.74
Internet Usage Experience	Less than one years	16	8.56
	1 - 3 years	49	26.20
	4 - 6 years	50	26.74
	More than 6 years	72	38.50
Mobile Wallet Usage Experience	Less than 1 years	52	27.81
	1 - 3 years	89	47.59
	4 - 6 years	32	17.11
	More than 6 years	14	7.49
Mobile Wallet App Using	Google Pay	66	35.29
	PAYTM	34	18.18
	Phonepe	56	29.95
	Other	31	16.58

3.2 Reliability Statistics of the Scale

To prove the internal reliability of the proposed research model used, Cronbach's alpha test of reliability is performed. According to Nunnally (1978), Cronbach's alpha should be 0.700 or above. Table II shows the Cronbach's alpha test results of independent variables and the dependent variable. It is found that all variables have Cronbach's Alpha value above 0.700, which means the internal consistency among variables is excellent and reliable.

Table II: Reliability Statistics of the Scale

Code	Variable Name	No. of Statement	Cronbach's Alpha
Independent Variable (IV)			
PU	Perceived Usefulness	6	0.874
PEOU	Perceived Ease of Use	4	0.835
GP	Government Policy	5	0.810
Dependent Variable (DV)			
INT	Intention to Use Mobile Wallet	8	0.896

3.3 Multiple Regression Analysis

Based on model summary table III, the results of regression analysis for three independent variables (PU, PEOU, GP) indicate positive ($R = 0.863$) and statistically significant relationship ($P\ 0.000 < 0.05$) with the dependent variable, i.e., factors affecting Intention to use mobile wallets. More specifically, independent variables accounted for 74.50 percent ($R^2 = 0.745$) of the independent variance variable (refer to table III).

Table III: Model Summary

Model	R	R Square	Adjusted R Square	Std. The error of the Estimate
1	0.863 ^a	0.745	0.740	0.30142

Note: a. Predictors: (Constant), GP, PU, PEOU

ANOVA table tests the acceptability of the research model from a statistical perspective. The F-statistics value is determined to check the significance level of the regression model by using the ANOVA test. The model is found significant because the p-value is less than 0.05. From the ANOVA test, F-statistics's value is 177.851, with a p-value equal to 0.000 (refer to table IV).

Table IV: ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	48.475	3	16.158	177.851	0.000 ^b
	Residual	16.626	183	0.091		
	Total	65.102	186			

Note: a. Dependent Variable: INT

b. Predictors: (Constant), GP, PU, PEOU

From table V, it can be observed that the most significant factor impacting Intention to use mobile wallet is government policy (GP) with the largest beta coefficient (Beta = 0.516), which is followed by other significant factors in order of its influence are: perceived usefulness (PU) (Beta = 0.304) and perceived ease of use (PEOU) (Beta = 0.172) respectively. The observed p values of PU, PEOU, and GP are significant at 0.000, 0.002, and 0.000, respectively. Thus, it can be inferred that a statistically significant relationship exists among perceived Usefulness, perceived ease of use, and government policy with respect to Intention to use mobile wallets.

Table V: Regression Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.		Collinearity Statistics	
		B	Std. Error	Beta				Tolerance	VIF
1	(Constant)	0.092	0.168		0.548	0.585			
	PU	0.295	0.053	0.304	5.572	0.000*		0.468	2.135
	PEOU	0.168	0.054	0.172	3.077	0.002*		0.445	2.248
	GP	0.499	0.046	0.516	10.766	0.000*		0.607	1.646

Note: a. Dependent Variable: INT; * $p < 0.01$ significance level

4. Discussion, Implications, and Conclusion

The study aimed to develop a modified TAM model for the mobile wallet to explain factors affecting customers' Intention to use a mobile wallet in the North Gujarat Region with the incorporation of one more important variable, namely government policy (GP) in TAM.

One of the most important findings of this study is that government policy is a major factor affecting the Intention to use a mobile wallet in North Gujarat. Thus, this study provides valuable insights into the govt, about various factors affecting Intention to use a mobile wallet. Based on this, govt. Should lay down important policies that can focus on stable and consistent growth of the mobile wallet industry. Besides, the govt. It should inspire people to use mobile wallets for digital payment. Govt. should launch a mobile wallet that can give security, easy to use, and quick payment benefits. So, more people can use such govt—launched a mobile wallet app for digital payment.

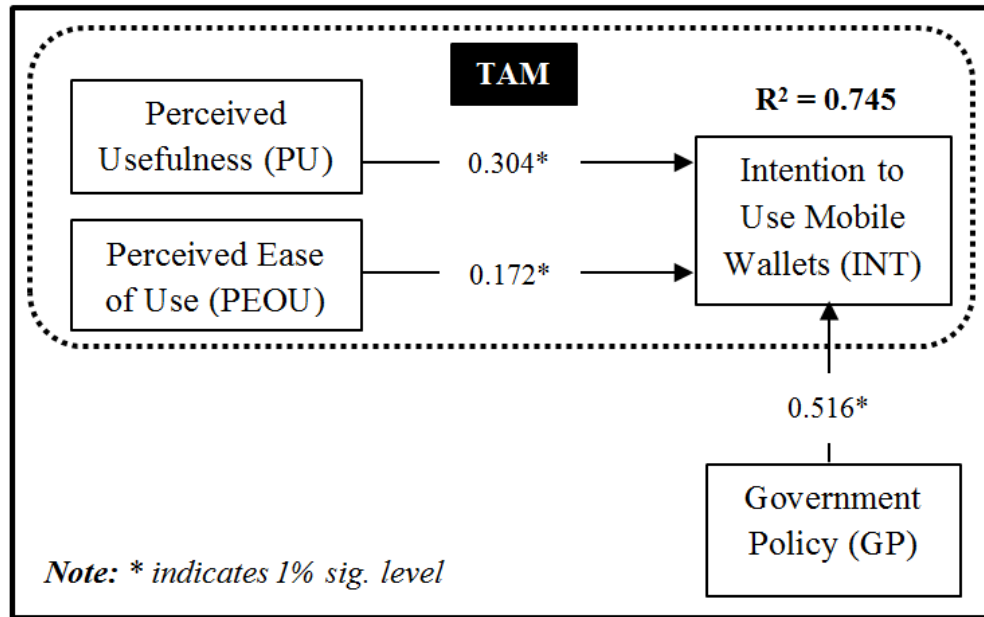


Figure II: Research Model with Regression Coefficient

Consistent with previous studies (Wang et al., 2006; Wong et al. 2012), both perceived Usefulness and perceived ease of use are significant antecedents of Intention to use a mobile wallet. Considering this, mobile wallet providers, along with the govt. India should formulate policies that can promote digital India, thereby making a mobile wallet an effective mode of payment shortly. Besides this, mobile wallet service providers and application developers should make the mobile wallet system easy and proficient to use to attract more people towards mobile wallets.

5. Limitations and Scope for Future Researches

This research study has certain limitations, which creates the pave for future researches. The first limitation is related to sample size—a small sample size confines generalization of research findings. Therefore, future studies should involve greater respondents or conduct a multi-country comparison study to better understand the Intention's factor to use mobile wallets. Second, this study is restricted to North Gujarat only. Hence, in the future, data should be collected from the Gujarat state, and the result can be compared and generalized to better understand factors affecting Intention to use mobile wallets.

Third, this study's research model has explained only 74.50 percent variance in Intention to use a mobile wallet, which means some other factors are not included in this study. Consequently, there is a need to search for other additional variables that can predict mobile wallet usage intentions more accurately. Thus, future studies can extend the research model of this study to predict the Intention to use mobile wallets to incorporate additional constructs that affect the Intention to use mobile wallets.

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