

Mobile Wallet Adoption and Innovation - Sustainable Growth of Business in India

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INTRODUCTION

A foremost technological revolution is leading today's world, particularly in the area of Information Technology (IT). The growth of IT is becoming a more tremendous and vital factor for the development of Industries and businesses in the upcoming days (Gbongli Kolman, et.al.2016). Due to the development of technology, the payment system too evolved into electronic-based payments. In the olden days barter system was followed in which the goods were exchanged for other goods. The barter system has vanished by the development of cash and now the cash has been desperate by the emerging technology of mobile-based payment services. One such evolving mobile based payment service is a mobile wallet. Mobile wallets are those mobile-based applications in which the user can hold money electronically without using their bank accounts. They can make payments up to the amount of money they hold within their wallet and they can recharge the wallet using various bank accounts. During the process of transactions money can be sent from the wallet to the payment merchant. According to Robin Arnfield (2015), "Mobile Wallet is a digitalized virtual currency version which is available for the consumer on their mobile device or tablets, where money can be used for purchasing goods and services at anytime and anywhere with the hassle-free transaction". According to Rehman et al (2022), compatibility, observability, perceived ease of use, perceived usefulness, trialability and convenience have positively influenced towards the mobile wallet adoption. In addition to that H Vyas et al., (2019), "the study resulted that there is a significant relationship between technological factors such as observability, trialability, compatibility with perceived usefulness and further perceived usefulness has significant relationship with mobile wallet usage". Jin et al (2019) concluded that perceived usefulness, perceived ease of use and trialability were the significant technical factors that led towards mobile wallet adoption in Malaysia. Further, Govender and Sihlali had found that there is a significant influence between perceived ease of use, perceived usefulness, social influence and actual usage of mobile wallet. New innovative technology with advanced features is being introduced in the market day by day. One such novel technology is mobile wallet, which is being experienced by both new and existing users. According to Rehman et al (2022), "the various features such as convenience, rewards and cashbacks, remote access etc...influence the customer towards the actual use of mobile wallet. Besides features, there are various factors that motivates the customer towards mobile wallet adoption. Thus, the present study focus on the impact of technological factors on actual usage of mobile wallet.

Scope of the Study

The main goal of the study is to comprehend the various technical factors that motivates the customer towards mobile wallet adoption. It provides an overview on the effect of technical factors on mobile wallets adoption and so it helps the fintech companies to enhance the features of mobile wallet in-order to attract new users.

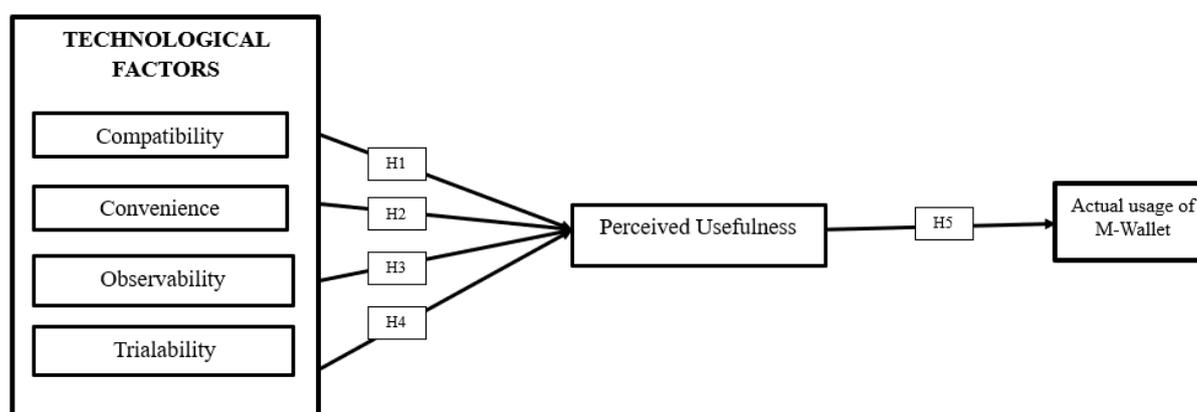
Objectives of the Study

- To analyse the impact of technological factors on actual usage of mobile wallets.
- To study the growth and development of **Mobile Wallet Adoption**

THEORETICAL FRAMEWORK

The research determinants that leads the customers towards mobile wallet adoption, thus the present study explores the technological factors such as perceived ease of use, observability, trialability and convenience, its influence on mobile wallet user's. The technological factors have been adopted from the previous research (Vijay et al, 2022). Compatibility consists the technology satisfies the needs, values and experience of the users. **Convenience** means the reduced effort and time needed to learn a new innovation. Convenience is the most influential factor which drives the user's to be an adopters in the future. **Observability** defines that tangibility of a newly innovated technology which has been availed for visibility. **Trialability** denotes the level at which the users or adopters are capable of trying out an innovation. Trialability is the process of pilot tests taken by customers towards a new technology before its adoption. **Perceived Ease of Use** refers to the customers easy adoptability towards the new technology which means to be a user-friendly technology.

Proposed model of the study



Hypothesis

H₁: Compatibility has a significant effect on perceived usefulness

H₂: Convenience has a significant effect on perceived usefulness

H₃: Observability has a significant effect on perceived usefulness

H₄: Trialability has a significant effect on perceived usefulness

H₅: Perceived ease of use has a significant effect on actual usage of mobile wallet.

METHODOLOGY

The study area was chosen Coimbatore, It comprehends people with the highest literacy rate and so the people of Coimbatore are aware of new technologies and innovations. The study concentrate on convenience sampling method under the non-probability sampling technique was used for selecting the sample size of the study. Both the primary and secondary data were adopted for the study. The primary data were collected using a structured questionnaire from 187 mobile wallet users. Secondary data were collected from various websites, books, articles and journals. Subsequently, the descriptive and PLS SEM (Structural Equation Model) were used for analysis.

ANALYSIS AND DISCUSSION

Profile of the Respondents

The Demographic Profile of the mobile wallet user's gives an overview that who was the mobile wallet adopters.

Table 1 Socio-economic Profile of the Respondents

Socio Economic Profile		Frequencies (N = 187)	Percentage
Age (in years)	Below 20	19	10
	21-35	106	56.6
	36-50	42	22.4
	Above 50	20	11
Gender	Male	99	53
	Female	88	47
Education	Higher Secondary	6	3.2
	Undergraduate	91	48.6
	Postgraduate	53	28.3
	Diploma	15	8.4
	Professional Degree	22	11.7
Occupation	Professionals	32	17
	Employee	103	55
	Own business	27	14.5
	Home maker	25	13.5
Monthly Income (in Rs)	Below 25000	47	25.2
	26000-45000	93	49.7
	46000-70000	36	19.3
	Above 70000	11	5.8

Source: Primary Data

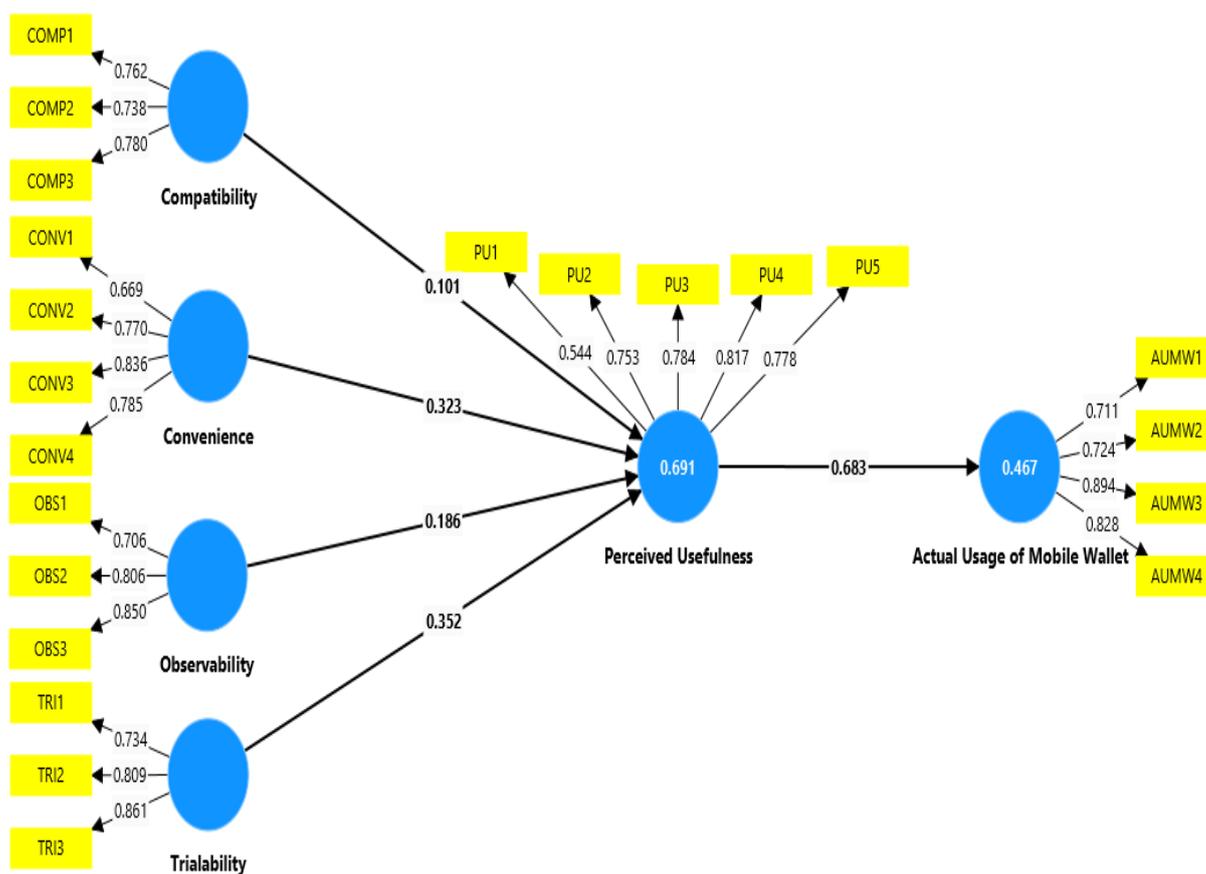
Based on the results, most respondents are 21-35 years of age (56.6%), which shows that mobile wallets are more familiar among the young generations. Male customers (53%) are highly using mobile wallets for their

payment transactions. About 48.6 percent of the sample respondents are undergraduates, employed (55%) and who were obtaining Rs.26000-45000 as their monthly income (49.7%).

Effect of Technological Factors on Actual Usage of Mobile Wallet

Structural equation modeling (SEM) has been applied using Smart PLS to analyze the hypothesis of the study. Even though PLS is a non-parametric test, yet to ensure the generalizability of the findings descriptive and normality of the data were analyzed. Descriptive mean and standard deviation are calculated. The first step in structural equation modelling is to ensure the reliability and validity which are the two main criteria used in PLS-SEM analysis to evaluate the outer model (Joseph et al., 2013). The first step in evaluation of outer model is evaluating item loadings, followed by Cronbach’s alpha, composite reliability, and Average Variance Extracted (AVE). The threshold level for item loading is higher than 0.70 and the same for Cronbach’s alpha and composite reliability is 0.7, while the threshold for AVE is greater than 0.5 (Hair et al., 2013). In this regard, it is necessary to confirm that the items used to evaluate one construct are discriminated against from the items used to measure another construct. The evaluated values for the above-mentioned tests are mentioned in table 4.19.

Figure 1 Validated Model



A Structural Equation Model was developed to test the effect of technological factors on actual usage of mobile wallet. The model integrates the technological factors influencing customer to use mobile wallet. The variables incorporated in the SEM model includes compatibility, convenience, observability and trialability leads to perceived usefulness and it led towards the actual usage of mobile wallet.

Table 1.2 confirmed that the items used to measure one construct are different from other constructs. First the outer model was found reliable and valid and then the inner model has been analyzed. Further, the model consists of four independent variable and one mediating and dependent variable were explored in the model and their direct relationships were listed below.

Table 2 Evaluation of Reliability and Validity Statistics

Constructs	Measurements	Factor Loadings	Cronbach's Alpha (>0.7)	Composite Reliability (CR) (>0.7)	Average Variance Extracted (AVE) (>0.5)
Compatibility	COMP1	0.762	0.735	0.804	0.578
	COMP2	0.738			
	COMP3	0.780			
Convenience	CONV1	0.669	0.767	0.851	0.589
	CONV2	0.770			
	CONV3	0.836			
	CONV4	0.785			
Observability	OBS1	0.706	0.710	0.832	0.623
	OBS2	0.806			
	OBS3	0.850			
Triability	TRI1	0.734	0.726	0.844	0.645
	TRI2	0.809			
	TRI3	0.861			
Perceived Usefulness	PU1	0.544	0.788	0.857	0.550
	PU2	0.753			
	PU3	0.784			
	PU4	0.817			
	PU5	0.778			
Actual Usage of Mobile Wallet	AUMW1	0.711	0.803	0.870	0.629
	AUMW2	0.724			
	AUMW3	0.894			
	AUMW4	0.828			

Source: Primary Data

The above table depicts that convenience ($\beta=0.323$, $t=2.929$, $p=0.003$) has a significant impact perceived usefulness. Likewise, observability ($\beta=0.186$, $t=2.374$, $p=0.018$) and trialability ($\beta=0.352$, $t=3.264$, $p=0.001$) were also having significant influence on perceived usefulness. Whereas, compatibility ($\beta=0.101$, $t=1.099$, $p=0.272$) was found to be insignificant and have no influence on perceived usefulness. The moderating variable perceived usefulness ($\beta=0.683$, $t=14.690$, $p=0.000$) has a significant impact on the independent variable (actual usage of mobile wallets). Thus, the above calculations such as Cronbach's alpha, composite reliability and AVE (average variance extracted) are found to be reliable and valid.

Table 3 Discriminant Validity – Fornell Larcker Criterion

	CMP	CONV	AUMW	OBS	PU	TRI
CMP	0.794					
CONV	0.760	0.767				
AUMW	0.670	0.651	0.793			
OBS	0.640	0.536	0.717	0.790		
PU	0.707	0.736	0.683	0.648	0.742	
TRI	0.655	0.649	0.634	0.613	0.742	0.803

Source: Primary Data

According to Fornell Larcker Criterion, the square root of AVE of a given construct is larger

than its correlation with any other construct (Henseler et al., 2015). The evaluated values for the discriminate validity are mentioned in the table 4. 19. Further, collinearity was measured through Variance inflation factors (VIF). In order to check whether there is any inter relationship that exists among the variables. The VIF values for the variables were compatibility (3.278), convenience (2.939), observability (1.907), trialability (2.111) and perceived usefulness (1.00). According to Kock and Lynn (2012) the VIF values should be less than or equal to 3.3 ($VIF \leq 3.3$) to ensure the absence of multi-co linearity among the variables. Thus, it can be inferred that, there is no inter relationship among the variables, since the VIF scores for all the variables are less than 3.3.

Table 4 Summary of Hypotheses Testing

Hypotheses	Independent Variable	Path	Dependent Variable	Standard Coefficient	P Value	R ²	Result
H1	Compatibility	→	Perceived Usefulness	0.092	0.272	0.467	0.464
H2	Convenience	→	Perceived Usefulness	0.110	0.003		
H3	Observability	→	Perceived Usefulness	0.078	0.018		
H4	Trialability	→	Perceived Usefulness	0.108	0.000		

H5	Perceived Usefulness	→	Actual Usage of Mobile Wallet	0.047	0.000	0.691	0.684
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Source: Primary Data

Hypotheses - testing of the structural model followed by confirmation of the reliability and validity of the measurement model. Subsequently, the structural model was evaluated to validate the hypotheses (H1-H5) for this study. The proposed conceptual model (Figure 2) was tested using SEM in line with the principles of maximum likelihood estimation. This includes the assessment of path estimates through the observation of standardized beta (β) coefficients and p-values (p). The path estimates are required to be significant at a 5% level in order to accept the hypotheses. The results of this analysis are presented in table 4.21 which provides evidence and shows the relationship between independent and dependent variables. The results of the study show s that only four hypotheses can be accepted as the p value is less than the significance level of 0.05. Thus, it implies that H2 (convenience and perceived usefulness: $\beta= 0.323$, $p=0.003$), H3 (observability and perceived usefulness: $\beta=0.185$, $p=0.018$), H4 (trialability and perceived usefulness: $\beta = 0.352$, $p= 0.001$) and H5 (perceived usefulness and actual usage of mobile wallet: $\beta = 0.683$, $p= 0.000$) have significant relationship and whereas H1 compatibility value is 0.272 which is greater than 0.05 level of significance. And hence H1 hypothesis is rejected.

CONCLUSION

Today, in the era of information technology, every business wants to deliver their products and services through electronic channels” (Maitlo, 2015). An extended form of information technology helps the people adopt towards digital payment services that are offered by fintech companies. And one such digital payment application is mobile wallets. There are various factors motivating the customer towards the actual usage of mobile wallet.

The technological factor is the most important factor that motivates the customer towards mobile wallet adoption. Thus, the study resulted that convenience, trialability, observability of technological factors has a significant relationship with perceived usefulness and which lead to the actual usage of mobile wallets. Though the Digital India concept is motivating the customer towards digital payment adoptions, educating and training of mobile wallet is essential to raise the mobile wallets users in India.

The service providers, of fintech companies should offer a wide range of facilities in a user-friendly manner so that the public can access the latest technology efficiently. The users must be aware of the guidelines and regulations issued by the companies as well as the governments. The customer could avoid entering into the attacks made by the hackers and thefts.

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