

Exploring the Factors Influencing the Mobile Wallet Usage Intention

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Abstract - The objective of this study is to identify factors influencing mobile wallet adoption in India. To achieve this goal, the adoption of mobile wallets was evaluated by using four user-centric variables. Data from 210 potential users of the mobile wallets have been empirically tested using online and offline surveys. Analysis was conducted on multiple regression data. The results demonstrate that performance expectations, effort expectations and trust have a significant positive effect on payment intention. The results of the study have significant theoretical and practical consequences, particularly in order to understand major user drivers for mobile wallet adoption. The objective of the survey is to identify factors that affect the intention of consumers to use mobile wallets. To analysis the use of four user-center variables in the mobile wallet adoption. For empirical testing of the proposed research framework, data were collected from 210 potential users of mobile wallets using online and offline surveys. Multiple regression data have been analyzed. The results show that payment intentions are greatly positive because of expectations of performance, effort expectations and trust.

Keywords - Trust, Effort Expectancy, Performance Expectancy, Payment intention, Mobile wallet.

Introduction

Mobile phones were a strategic and cost-effective tool in the provision of products, services and information by means of innovative technologies and a robust combination of information technologies (Bauer, Reichardt, Barnes & Neumann, 2005; Hsu & Kulviwat, 2006; Varshney & Vetter 2002). The new mobile business platform has emerged to address various routine consumer needs (Skeldon 2011), and the development of business potential has made a major contribution to m-payment services.

M-Payment makes it easy and efficient for users to make payments and transfer funds (Mallat, Rossi & Tuunainen, 2004). Mobile, cellular and mobile banking services have shown good consumer performance (Barutcu, 2008; Xu, Teo, Tan & Agarwal, 2009). Yet less than 1% of users used m-payment in their smartphones.

The key question before m-payment service providers is what slows down M-payment. Therefore it is necessary to examine factors affecting the intention of m-payments (Dahlberg, Mallat, Ondrus and Zmijewska, 2008). The adoption of M-payments will be a strong focus for managers and researchers, for example businesses, service providers, software services providers and third parties (Lim 2008; Ondrus & Pigneur, 2006).

The research therefore explores those factors that influence the intention to adopt mobile wallets. This is the rest of the paper. A literary review in the second section focuses on the rationality of the study and the second section. The research aim is outlined in the fourth section. The research methods involved are focused in the third section. The results can be found in section six. The seventh section describes the implications and boundaries of future study research.

Previous Studies Related to M-Payment Adoption Intention

Mallat (2007) analyzed the relative advantages, compatibility, complications and costs in accordance with focus group analyses. In view of TAM, Pousttchi and Wiedemann (2007) conducted an analysis of the adoption of m-payments in Germany with extended structures. They argued that m-payments intention has a significant influence on Performance expectancy, Effort expectancy, Social influence and facilitating conditions.

However, subjective security has negligible implications. But the current research well covers consumer and technical perspectives, but less looks at the impact of social and cultural factors on the m-paid. A detailed literature review by Dahlberg et al. (2008) concludes Oh, Kim et al. 2010, adopted a TAM model with two consumer-centered systems and four systems which explain the factors that influence Korea's adoption of m-payments.

They have found that IP and M-payment knowledge, mobility, accessibility and convenience have an important effect on M-payment acceptance. Compatibility, however, has no role in the decision on the adoption of payments. The trust impact assessment on China's m-payment intent has been conducted by Zhou (2011). The results of the study show that confidence and confidence are greatly affected by perception of safety, allergy and PEOU. The impact on payment adoption of technological and behavioral factors has been examined by Keramati, Taeb, Larijani and Mojir (2012).

The results of the survey showed that the intention of adoption is significantly affected by usability, usability, confidence, compatibility, costs, standards, payment patterns, skills and convenience. They also examined the impact on cultural and demographic adoption behaviour. The model of TAM and DOI was adopted by Arvidsson to study Sweden's intention to adopt m-payments and he explained that PEOU and PU have a positive relationship to adoption, as well as relative benefits, high trust,

low security risks, higher age and lower incomes. For confirming PEOU, PU's positive impact and trust in adopting payment services, Duane, O'Reilly and Andreev (2014) used a TAM model in Ireland.

The factors affecting early adoption behavior by adopting m-payment through TAM in Thailand were also examined by Phonthanakitithaworn, Sellitto and Fong (2015) and PEOU, PU, compatibility, SN, the trust perceived and cost perceived had a significant impact on the intent to be taken. In comparison to the TPB model, Ting, Yacob, Liew and Lau (2001), argued that both countries have a major impact on the acceptance of m-payment by SN and the perceived behavior. In Brazil, the UTAUT model has been adopted by de Sena Abrahão, Moriguchi and Andrade (2016) to investigate the purpose of using m-paid. They described the positive effects of social influence; expectations of performance and effort and perceived risk have negative consequences for them.

Objectives

This empirical study has a double objective. First, by reviewing the previous related literature, we examined the determinants of the intended adoption of m-payments and to understand the intent of adopting m-payments in the Indian context. The four further construct's adopted by the literature concerning the use of technology consist of Performance expectancy, Effort expectancy, Social influence and Facilitating conditions. Secondly, in order to better understand the context, we identified the factors with significant implications for the intention to make M payments in India.

Rational of the Study

Mobile devices and Internet connection are the main drivers of the digital payment system. There are more than 1 billion Internet user and mobile subscribers in India (TRAI, Feb 2017). According to the State of Broadband (2016) report (TRAI, February 2017), India is outpacing the US to become the world's second largest Internet and smartphone market. Banks and other financial institutions have been taking many initiatives to use mobile as a financial transaction channel. The overall rate of urban and rural mobile penetration in India is 89.90 percent (TRAI, February 2017), at 165.04 percent and 52.84 percent.

In the financial year 2016 the total transaction volume reported was 2.9 billion m, with an estimated volume of approximately \$460 billion by 2022, with significant growth of 132 percent, according to ASSOCHAM (2016 December). In 2016, the total transaction value was INR 8.2 trillion, with an increase of 150% by 2022, of the INR 2205 trillion mark. Recently, the Indian Government has decided to ban the old 52000 rupees currency and has introduced 52000 rupees to a new name.

The government also set a specific ceiling on the removal of ATMs, leading to a market currency deficiency. To this end, the government promotes online cashless business transactions. Mobile telephones can become a new channel for financial transactions in the current monetary crisis scenario. According to Bloomberg, in the majority of accounts, only 53% of Indians have a zero-balance bank account. More than 80% of people use mobile phones, however. Above statistics, there is a huge potential for m-payment in the Indian market and it is necessary to take the time to explore the full potential of m-payment after demonetization.

Hypothesis of the Study

H₁: There is a significant relationship between Performance Expectancy and Behavioral Intention.

H₂: There is a significant relationship between Effort Expectancy and Behavioral Intention.

H₃: There is a significant relationship between Social Influence and Behavioral Intention.

H₄: There is a significant relationship between Facilitating Conditions and Behavioral Intention.

Research Method

Construct Measurement

As part of this study, a survey tool has been developed based on a review of M-payment and other intentional literature. To collect the answers, a five-point Likert scale was used (anchored in strong disagreement = 1 and strongly agreed = 5). The first questionnaire was pre-tested by sending it to electronic trade teachers. The device was then tested by pilot with 30 people who use the m-payment service regularly. These multiple development phases ensure a significant degree of refinement and face to face validity (Nunnally, 1978).

Data Collection

A structured survey consisting of 31 items was used for the online and offline survey. An online survey was carried out by e-mail and by Facebook and LinkedIn. The questionnaire was posted. A visiting offline investigation was carried out in India by institutions, banks, cyber cafés, conferences and coaching institutions. The sampling method was used to select the study sample for comfort of unlikely occurrence. The response from m-payment users was only collected from respondents by m-payment in order to guarantee the computational experience 476 responses were initially received and 381 valid survey responses were included in the study after the deletion of incomplete and invalid answers.

Data Analysis

Reliability Analysis

In order to measure the internal consistency of the scales, reliability of the measurement was tested using the Cronbach Alpha. Table I states that the alpha values of all Cronbach variables are higher than 0.70, which means that all variables are reliable and internally consistent. The reliability of each factor was high. No item deletion took place.

Table-1 Reliability of the Variables

	Cronbach Alpha
Performance Expectancy	0.950

Effort Expectancy	0.902
Trust	0.873
Intention	0.891
Mobile Wallet Adoption	0.925

Demographic Profile of the respondents

Table -2 depicts frequency analysis of the demographic profile of respondents. 122 (46.5%) of the respondents were female and 53.5% males. 7.8% were aged below 20 years followed by 5.3% aged 35 to 49 years. More than half of the respondents (84.4%) are in 21-34 age group. Most of the respondents held bachelor degrees (45.3). 21% of the respondents earned monthly income between 20,001-40,000. 52.3% of the respondents are having less than 3 years of the mobile payment experience. 39.5% of the respondents spend 2-5 hours on mobile phones per day. 37.4% respondents were from urban area.

Table-2 Demographic Profile of the Respondents

Item Description	Category	Frequency
Gender	Male	53.5
	female	46.5
Age	Under 20	7.8
	21-34	84.4
	35-49	5.3
	50-64	2.5
Qualification	SSLC	2.5
	HSC	1.2
	DIPLOMA	3.3
	UG	45.3
	PG	35.8
	PROFESSIONAL COURSE	11.9
Occupation	ENTREPRENEURS	5.8
	MANAGER/ADMINISTRATOR	7.8
	SCHOOL TEACHER	24.7
	PROF LIKE DOCTOR, ENGINEERS....	5.3
	GOVT EMPLOYEE	5.8
	HOME MAKER	0.8
	STUDENTS	27.6
	COLLEGE TEACHER	9.5
	RETIRED PERSONS	12.8
Family Income	LESS THAN Rs.20,000	33.7
	Rs.20,001-40,000	21
	Rs.40,001-60,000	16
	Rs.60,001-80,000	6.6
	Rs.80,001-1,00,000	9.1
	ABOVE Rs.1,00,000	13.6
Marital status	Married	24.3
	Single	75.7
	Divorced	0
Family type	Nuclear	69.1
	Joint	30.9
Living region	Urban	37.4
	Semi-Urban	18.1
	Rural	14.4
	Metropolitan	30
Hour spends on mobile	Less than 1hr.	4.9
	1-2 hrs.	27.6
	2-5 hrs.	39.5
	5-8 hrs.	16.9
	More than 5	11.1
Experience mobile payment	Less than 3 Yrs.	52.3
	3-6 yrs.	29.2
	Over 6 yrs.	18.5

MULTIPLE REGRESSION

Table-3 Multiple Regression

Model	R	R Square	Adjusted Square	R	Std. Error of the Estimate	Change Statistics				
						R Square Change	F Change	df1	df2	Sig. F Change
1	.793 ^a	.629	.623		2.483	.629	100.893	4	238	.000

a. Predictors: (Constant), FCT, SITT, PET, EET

Multiple regression analysis was performed to test the hypothesis relationship between independent variables and dependent variable. Results were enumerated in the above table. The F-statistics produced ($F = 100.893$) was significant at 1 percent level ($\text{Sig. } F < 0.01$), thus confirming the fitness of the model.

Thus, significant relationship emerges among the four factors (i.e. Effort expectancy, Performance Expectancy, Social Influence, Facilitating Conditions and customers mobile wallet adoption among respondents in Chennai).

Adjusted $R^2 = 0.623$, indicating the independent variables explained 62.3 percent variance in the dependent variable.

Table-4 ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2488.623	4	622.156	100.893	.000 ^b
	Residual	1467.632	238	6.167		
	Total	3956.255	242			

a. Dependent Variable: BITT

b. Predictors: (Constant), FCT, SITT, PET, EET

ANOVA table shows that the significant value is less than 0.01, which means dependent variable that is Behavioral intention is significantly predicted by independent variables namely Performance expectancy, Effort expectancy, Social influence and Facilitating conditions at 99% level of confidence.

Table-5 Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations			Collinearity Statistics	
	B	Std. Error	Beta			Zero-order	Partial	Part	Tolerance	VIF
(Constant)	-.899	.952		-.944	.346					
PET	.116	.073	.110	1.594	.112	.664	.103	.063	.327	3.055
1 EET	.310	.073	.298	4.225	.000	.716	.264	.167	.312	3.200
SITT	.311	.069	.252	4.530	.000	.669	.282	.179	.504	1.986
FCT	.395	.092	.254	4.282	.000	.683	.267	.169	.442	2.262

a. Dependent Variable: BITT

H₁: There is a significant relationship between Performance Expectancy and Behavioral Intention. In the above Table V demonstrated that the results were insignificant ($\beta_1 = 0.110$; $t = 1.594$; $p = 0.112$). Thus, H₁ is not supported where the performance expectancy does not have an impact on customer behavioral intention.

H₂: There is a significant relationship between Effort Expectancy and Behavioral Intention. Results were statistically significant ($\beta_2 = 0.298$; $t = 4.225$; $p = 0.000$), signifying H₂ is supported.

H₃: There is a significant relationship between Social Influence and Behavioral Intention. A significant result was found ($\beta_3 = 0.252$; $t = 4.530$; $p = 0.000$). Its p-value was < 0.05 , implying H₃ is supported.

H₄: There is a significant relationship between Facilitating Conditions and Behavioral Intention. Results were $\beta_4 = 0.254$; $t = 4.282$; $p = 0.000$. Its $p < 0.05$, hence, H₄ is significant and supported.

Conclusion

M-payment receives global attention from users as an alternate system for financial transactions. Few studies are available to investigate the intention of adopting m-payments in India. A comprehensive model to examine the factors affecting the intention of India to make payments was developed in order to meet the divide. The results show that the intention of adoption by performance expectancy doesn't impact the intention of the customers mobile payment adoption. Effort expectancy, Social influence, facilitating conditions has significant impact on behavioral intention.

The results also show that Effort expectancy and Facilitating conditions are key factors that influence the intention of mobile payments adoption. These results guide the provider of m-payments to understand the priorities of users. After information about user -centered factors, organizations can formulate their strategies accordingly. The organization, too, can Position their services in accordance with consumer choices that can increase the pace of acceptance. The results also provide important information for third parties, banks and other m-payment entities. This study will also help the government to implement the financial inclusion and cashless economy.

Limitation and Future Research

This article examines key factors of behavioral intention to adopt mobile wallets, but there are some limitations. Data collected were from only mobile wallet users. In future a study would be carried out to examine the impact of mobile wallet users and non-users. In addition, majority of the respondents from age group of 21-34 years. Future studies could be studied the adoption behavior of senior citizens. This study is restricted only to Chennai, future studies would be carried out across the country or globe and it is necessary to know the important factors in other cultures and contexts.

This study is restricted to social factors and technology factors can also be taken for future research. Further research can be undertaken to explore the mediating effects of PEOU and PU to obtain a better model of intention prediction. In a longer study, key factors affecting the intention to take M-payments can be better explored.

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