



DOES CONSUMER USE ONLINE PAYMENT?

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ABSTRACT

The rationale of the study is to developed theoretical model which covers significant drivers for mobile wallet adoption. In the current study Task-Technology fit, trust, risk, and cost construct are empirically tested. Samples were collected using online and offline techniques. A total 700 samples were collected from the Gujarat. After removing missing values, 479 were analyzed. SEM techniques was used for further analyzing the data. One of the interesting finding of the study is Task-Technology fit emerge is one of the most significant factor, which influence the behavioral intention of consumers to adopt mobile wallet. Trust, risk and cost are other significant factors based of their influencing level. Study provide new theoretical model in the information system's technology adoption branch.

Key words: TTF, Task Technology Fit, SEM, Structural Equation Modeling, CFA, Confirmatory Factor Analysis, Digital Wallet

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1. INTRODUCTION

The digital payment system is making the big wave for the retail market and especially the mobile wallet has gained attention more in all economies. The mobile wallet which acquired attention and rapid acceptance is taking place among consumers across the globe. Penetration of mobile phone has increased, the availability of "Mobile Wallet" among users. Such

penetration has increased the number of players who can provide mobile wallet services to consumers.

Mobile wallet, digital wallet or e-wallet is the words which are used interchangeably, to indicate mobile wallets. A mobile wallet is an application that integrates the user's bank's accounts with the phone, which helps users to make financial transactions. Mobile wallet is mobile payment systems, which provides the facility to users to make digital payment using the mobile phone (Shin, 2009). According to Amorson and Watanabe (2012), a mobile wallet is a multipurpose application, which can be used to carry out the low-cost transaction.

In the context of mobile wallet different researcher has empirically tested different research model and make changes, which are based on their context to empirically test which drives users to adopt technology.

Information systems literature already identified the drivers in the form of TAM and UTAUT, theoretical model. According to (Venkatesh, Thog, and Xong, 2016), theory development in the domain of information systems has reached to its peak, this it required new direction for the further development. One such direction is to incorporate theories form other domain and expansion of existing theories by adding relevant constructs. Based on suggested direction, current study has taken Task-Technology fit theoretical model as based model. The TTF model is further expanded by adding trust, risk and cost construct.

TTF model suggests that users will adopt and use that technology which suffices their need to carry out tasks efficiently. Adoption of a new information system greatly depends on the balanced fit between task and technology (Kim, Chan and Gupta, 2016). The fit between technology and task will determine the adoption of technology by end users (Zhou, Lu and Wang, 2010). TTF model is widely used among researchers. TTF is empirically tested with a combination of other theoretical models such as TAM, UTATU, and UTAUT2, it enhances explanatory power of suggested theoretical models (Dishaw and Strong, 1999; Parkes, 2013; Lin, 2012; Liang et al., 2013). Current study is the first attempt to develop the TTF model as base model and expand the theory.

First objective of the study to identify the influencing factors which drives the consumers behavioral intention to adopt mobile wallet. Second objective is to integrate the influencing factors in to the TTF. Third objective is to empirically test the theoretical model in the context of mobile wallet. First part of the paper is containing theoretical background, followed by literature reviews and hypothesis development. Third part contains research methodology followed by analysis, discussion, and the future scope of study.

2. THEORETICAL BACKGROUND AND HYPOTHESIS DEVELOPMENT

2.1. Task-Technology Fit

TTF is widely used theory in the domain of information systems. TTF is developed by (Godhure and Thompson, 1995). The under-laying argument of TTF is that if users are not able to find the technology which efficiently carry out their task, user will not adopt that technology. TTF captures one of the important factors which explain how technology leads to performance improvement. It provides links between the performance and developing better technology for consumers.

TTF was combined with TAM to check the e-commerce adoption among undergraduate students of USA, the study found that it has increased the explanatory power of the model which has impacted on ease of use (Klopping and McKinney, 2004). Adoption of location based information system among consumers has found that TTF play a deciding role for adoption of technology (Junglas et al., 2008). Accrding to Parkes (2013), balance fit between user's task

and technology has a positive impact on performance, which will increase the adoption of technology. The imbalance fit between task and technology will have a negative impact on performance, which will have inverse effect on adoption of technology.

Empirical evidence shows that the interaction between task and technology characteristics affects users' behavior intention to adopt blogs, which further determines their usage (Zhou, Lu and Wang, 2010; Shang et al., 2007). Further, continuous usage of e-learning tools was better explained by the inclusion of task technology fit in the model (Larsen and Sorebo, 2009). Mobile internet usage was also empirically tested along with the TTF construct to extend the rationality of adoption (Shin et al., 2009). In the mobile banking context, the behavioral intention to adopt was significantly influenced by task technology fit (Oliveira et al., 2014). Social networking site adoption was empirically tested by adding social construct into TTF. Social construct has very strong positive impact on behavior intention to adopt technology. Researcher has argued the TTF needs to be revised by adding social construct into it (Lu and Yang, 2014). Based on this discussion, it was derived that:

H₁: Task technology fit influence the behavioral intention to adopt mobile wallet.

2.2. Trust

People's general tendency to trust is one type of personality trait (X. Luo et al. 2010). According to Gafen et al. (2003), trust plays a central role in building an unknown relationship. A study conducted to check the online shopping has identified that, trust plays a significant role on building consumers purchase intention. The study has also identified that trust is one of the key indicator for e-commerce companies (Al-Debei, Akroush, and Ashouri, 2015). According to (Samul, Balaji and Wei, 2015), online shopping using app is one is new mode of purchase compare of offline shopping, consumers show low level of trust which restrict them to try our new things.

Trust is one of significant for business development and maintain the consumers, online shopping vendors needs to build their application in such a way that, consumer should feel that application is dependable, reliable and safe to carry any transaction. People are heavily relying on the ratings, reviews and other people's experience for e-commerce webs site argued (Sharma, Menard and Murchler, 2019). Earlier studies have found that trust has direct and influencing link to consumers online purchase intention (Beldad, de Jong, and Steehouder 2010; Agag and El-Mastry, 2016). Based on the above literature below mention hypothesis is proposed.

H₂ Trust influences the behavioral intention to adopt mobile wallet.

2.3. Cost

Concept of cost is derived from the transaction cost theory (TCT) (Williamsons, 1998) it is used in information technology outsourcing decision for organization (Alagheband et al., 2011). Direct cost and indirect cost are the two main dimensions of cost. Behavior intention to adopt digital payment and mobile banking is highly influenced by the cost. Transaction costs and service charges are two examples of direct cost that customer pays the bank to carry out digital payment (Yang et al. 2009). Thus, the following hypothesis was developed:

H₃: Cost influences the behavioral intention to adopt mobile wallet.

Based on above discussion, the following research model was proposed:

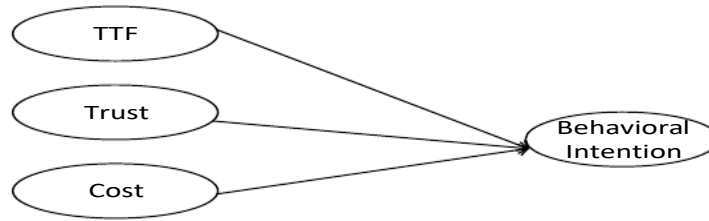


Figure 1 Proposed research model

3. RESEARCH METHODOLOGY

3.1. Survey Instrument

A structured questionnaire was developed to collect responses that capture self-reported behaviors. The scale items for Task technology fit construct was adopted from (Klopping 2004; Larson, 2009, Sorebo and Sorebo, 2009). Cost construct was adopted from (Teo and Yu, 2005). Items for trust and risk is adopted from (citation). Trust All items were measured on a five-point Likert type scale ranging from 1 (strongly disagree) to 5 (strongly agree). A pilot study was conducted to get accurate responses. The pilot suggestions were incorporated in the final version of the instrument.

3.2. Sample Selection

Further, this study consists of adults whose age is above 18 years; as the mobile wallet carries digital financial transaction, adults whose age is above 18 were selected. A total of 700 samples were collected. After scrutinizing the data by eliminating missing values, 479 usable samples were further process for analysis. Samples were selected from the Ahmedabad, Bhavnagar, Surat, Baroda, and Rajkot city.

3.3. Demographic Profile and Characteristics of Respondents

Table 1 Shows the descriptive statistics of the consumers surveyed.

Table 1 Frequency Distribution for respondent's Demographics								
	Respondent	Valid Percentage		Respondent	Valid Percentage		Respondent	Valid Percentage
Gender			Education			Occupation		
Male	300	63	Graduation	301	63	Student	319	66.6
Female	179	37	Up to Schooling	120	25.1	Government Service	28	5.8
			Post-Graduation	52	11	Private Service	93	19.4
18-23	327	68.3	Ph.D.	6	1.3	Business	19	4
23-29	83	17.3				Self Employed	15	3.1
30-34	32	7				Pensioner and others	5	1
Above 35	37	8						

3.4. Data Analysis

To empirically test the hypothesis, structural equation modelling technique is used. “Structural equation modeling (SEM) is a technique for estimating causal relations applying a combination of statistical data and qualitative causal hypothesis.

3.5. Reliability and Validity

To access the reliability and validity of the construct, confirmatory factor analysis was carried out on task technology fit, trust, risk and cost, and behavior intention. Table 2 indicated the results of reliability, and convergent validity. The standardized loading of all the variables were significant (Fornell and Larcker, 1981). All the constructs AVE and CR indicates the establishment of construct validity. All the construct which are mention in the table 1 and 3 able to meet the criteria of CR and AVE. The overall model-fit indices for measurement mode is (DF=158; P<0.05; $\chi^2/DF=2.072$; GFI =0.91; TLI=0.949; CFI=0.95; RMSEA=0.04) (Han, Hsu and Sheu, 2010). All fit indices are satisfactory.

Table 2 Reliability and Validity

Sr. No	Variable	Cronbach's α	CR	AVE
1	Task-Technology Fit	0.84	0.85	0.58
2	Behavioral Intention	0.86	0.86	0.56
3	Trust	0.77	0.83	0.51
4	Cost	0.72	0.77	0.50

(Notes: cr and ave value thresh hold limit)

4. ANALYSIS

4.1. Structural Model

Structural Model was estimated for all independent variables Trust, Task Technology Fit, and cost on behavior intention. Explanatory power and model fir indices are mention in the table 3.

Table 3 Model and fit indices of model

Paths	Coefficients (β)	t-value	P Value	Hypothesis Supported
Trust \rightarrow BI (-)	0.28	4.43	***	Yes
TTF \rightarrow BI (+)	0.48	6.15	***	Yes
Cost \rightarrow BI (+)	0.12	2.07	0.03**	Yes

Note: * $p < 0.01$; ** $p < 0.05$; *** $p < 0.001$

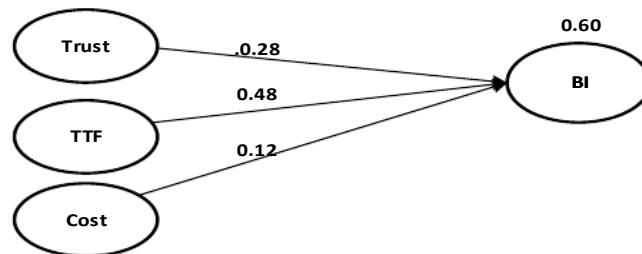


Figure 2 Structural Model

The analysis of hypothesis was carried out by using SEM. The result indicates that of theoretical model is an acceptable fit to the data. Standardized path and coefficient was measured using model fit indices.

Table 4 Model Fit indices

Fit Indices & R ²	Suggested	Achieved
Df		158
X ² /df	2 to 5	2.11
GFI	> 0.90	0.93
RMSEA	< 0.08	0.04
CFI	> 0.90	0.96
NFI	> 0.90	0.92
TLI	> 0.90	0.95
PGFI	> 0.5	0.7
PNFI	> 0.5	0.77
R ²	Behavior Intention	0.66

Standardized coefficient estimates indicated the path between TTF and behavior intention ($\beta=0.48$; $t=6.15$, $p<0.001$), between trust and behavior intention ($\beta= 0.28$; $t=4.43$, $p<0.001$), and between cost and behavioral intention ($\beta=0.12$; $t=2.07$, $p<0.03$).

The model explains a 60% variation in behavior intention. Among all the construct task technology fit, is the most significant construct followed by trust and cost. An interesting finding of the theoretical model is the Task-Technology along is able to explain more than 45% variance in behavioral intention.

5. DISCUSSION

Contribution of the study was to identify driving factors which impact behavior intention for mobile wallet adoption among consumers. Study finds that task technology fit has direct significant effects on behavior intention. This is one of the interesting findings of the study. Task technology fit has emerged as one of the important predictors of behavior intention with highest coefficient value of (0.48). These findings are in line with (Oliverial et al., 2016). This finding indicates that there is need to enhance the model by adding more predictors on the technology side as indicated by (Venkatesh, Thing and Xu, 2016).

Study highlights that trust is another construct which influence the behavioral intention of consumers to adopt the mobile wallet. In the present study cost construct also emerged as one of the predictors of behavior intention. One of the reasons is that the consumer perceived that mobiles do not have any cost association while using. Results suggest that users do consider using as cost associated with every transaction which is being carried out by mobile wallet. Cost includes transaction cost, internet cost, up gradation or mobile wallet cost, these findings are in line with (Baptista and Oliveira, 2015).

6. THEORETICAL IMPLICATIONS

TTF model is not used as based model, it been always used as second model which enhance the explanatory power of another theoretical model like TAM, UTATU, and UTAUT2. One of the major contributions of the study is to extend the Task-Technology Fit, by integrating trust and cost. From best of our knowledge, it is the first study which has integrated trust and cost in TTF theory. The integration of construct has enhanced the theory building in the domain of information system.

The key contribution is the perception that consumers have a shift for basic adoption of technology to task specific adoption, thus TTF has emerged as one of the most significant factors among all factors which influence behavior intention. Rationale of the study was to

develop an inclusive theoretical model which covers significant drivers for mobile wallet adoption, which supported.

7. LIMITATION AND FUTURE RESEARCH

The limitation of the study is that as the mobile wallet is a newly introduced form of digital payment; findings may differ for the more specific digital payment options. Second limitation is that relevant variables like personal innovativeness, risk, overall awareness of digital payment, and government policy could be included. Covariance technique is used to check relationship among the drivers which is another limitation of the study, and need to be taken into account while replicating this study. Study has not used any demographic variable as moderator.

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