

Antecedents of Behavioural Intention towards Mobile Payment Application Using UTAUT model

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Abstract

This paper aims to study the antecedents of the Behavioural Intention of consumers towards mobile applications like mobile wallets. This is done by examining the mobile payment technology with an extended framework of the Unified Theory of Acceptance and Use of Technology (UTAUT) model. This study attempts to extend the UTAUT model by introducing the constructs, namely Perceived cost, Perceived risk, demonetization effect, and electronic word of mouth. The constructs were tested and validated through a structured questionnaire administered to a sample of 220 mobile payment users. AMOS 2.0 was used to analyse the collected data. The key results indicate that Demonetization and electronic word of mouth have a positive and significant impact on the behavior intention of consumers towards mobile payment applications. The UTAUT model was observed to be a better model explaining the antecedents of behavioral intention and usage. In addition to UTAUT antecedents, perceived cost and perceived risk are identified as the most decisive influence of behavior Intention.

Keywords: Mobile payments, UTAUT, Demonetization, eWOM, perceived cost, and perceived risk

1. Introduction:

Mobile payment (also referred to as mobile money, mobile money transfer, and mobile wallet) generally refers to payment services operated under financial regulation and performed via a mobile device. Instead of paying with cash, cheque, or credit cards, a consumer can use a mobile to pay for a wide range of services and digital or hard goods. Although the concept of using non-coin-based currency systems has a long history, it is only in the 21st century that the technology to support such systems has become widely available. Mobile payment is being adopted all over the world in different ways. The first patent exclusively defined "Mobile Payment System" was filed in 2000. In developing countries, mobile payment solutions have been deployed as a means of extending financial services to the community known as the "unbanked" or "underbanked", which is estimated to be as much as 50% of the world's adult population, according to Financial Access' 2009 Report "Half the

World is Unbanked". According to the European Payments Council (EPC), mobile payments are becoming a key instrument for Payment Service Providers (PSPs) and other market participants to achieve new growth opportunities, according to the European Payments Council (EPC). The EPC states that "new technology solutions provide a direct improvement to the efficiency of the operations, ultimately resulting in cost savings and in an increase in business volume." *Mobile payment* is defined as any payment transaction undertaken with the use of a mobile phone. Mobile payment offers various benefits to users like a one-click payment solution, no hassle of carrying cash, ease in tracking small expenses, 24x7 payment anywhere, offers discounts and cashback schemes, and most importantly, safety. Shah et al. (2016) found that India's readiness to adopt digital payments cantered largely on convenience followed by better deals, discounts, and cash backs. They also observed that Indian consumers have started to use digital payments for offline point-of-sale; however, using cash, the complexity of digital payment modes, and limited reach were major impediments to its expansion. With digital payment contributing 8 percent to the total value of global retail payments transactions in 2015, it is projected to grow to 24 percent by 2020.

2. Literature Review:

Since its establishment, UTAUT has been widely used by researchers conducting empirical research into consumer intentions and behaviors to use technology and diffusion studies as theoretical lenses. At the time of writing, Venkatesh et al. (2003), UTAUT has been discussed about a variety of technologies (including the Internet, websites, hospital information systems, tax systems, and mobile technologies) using a variety of management factors (e.g., age, gender, experience), Voluntary use, income, and education) focus on various user groups (e.g., students, professionals, and general users) The application of the UTAUT model to assess the determinants of behavioral intention and usage for various technological innovations like e-commerce, mobile banking, telecommunication, e-learning, and health have found varying results so far. This model explained 70 percent of the variation in the intention to use information technology. UTAUT model came up with four antecedents of intention to use: performance expectation, effort expectation, social influence and facilitating conditions, and four moderating variables, namely age, gender, the voluntariness of use, and experience

This theory was developed by reviewing and integrating eight dominant theories and models: Intelligent Behavioural Theory (TRA), Technology Acceptance Model (TAM), Motivational

Model, Planned Behavioural Theory (TPB), and Combined TBP. / TAM, PC Usage Model, Innovation Diffusion Theory (IDT) and Social Cognitive Theory (CCT). These supporting theories and models have been used extensively and successfully in many previous studies of technology utilization and diffusion of innovation In a variety of fields, including information systems, marketing, social psychology, and management. In the original article, Venkatesh et al. (2003) published the results of a six-month study of four organizations, showing that eight models of engagement account for 17% to 53% of the variance in consumers' intention to use IT. However, UTAUT was found to outperform eight individual models with an adjusted R² of 69% (Venkatesh et al., 2003).

2.1 E – WOM

According to Williams et al. (2015), EWOM communication means any positive or negative statements made by actual or former potential customers about a product or company that may be used by multiple individuals and organizations over the Internet. You can exchange them in various ways, such as email, instant message, website, blog, forum, online group, newsgroup, chat room, hate website, review website, and social networking site. EWOM can be sent through various websites and can also lead to words, product reviews, consumer recommendations, and conversations.

EWOM is similar to traditional speech in some respects but differs from the traditional speech in many respects:

1. eWOM is distributed as traditional oral communication through various platforms such as email, instant messaging, blogs, forums, online groups, chat rooms, review websites, and more.
2. The strength of the connection between the sender and the recipient of the information is different. Virgo traditionally occurs between relatives, friends, and acquaintances, but most eWOM communication occurs between strangers.
3. eWOM's communication network is much more extensive.

More participants and audiences are engaged, and the scope of this communication goes beyond small personal connections to the world of the Internet. Finally, compared to traditional word of mouth, eWOM communication is more critical due to its low cost and high speed. (Cheng, X., & Zhou, M. (2010).

2.2 Demonetization:

In his study, P. Kumar Vijay (2016) reviewed that the term demonetization is not new to the Indian economy. The highest denomination note ever printed by the Reserve Bank of India was the Rs 10,000 note in 1938 and again in 1954. However, these notes were demonetized in January 1946 and again in January 1978. The Reserve Bank of India manages currency in India and derives its role in currency management based on the Reserve Bank of India Act 1934, and a newly redesigned series of Rs 500 banknote and a new denomination of Rs 2000 banknote is in circulation since November 10, 2016. The decision was taken to curb the illegal use of high denomination currency which was used for corruption in the country. Varshith J. R. (2016), in his study, has stated that the move to demonetize Rs 500 and Rs 1,000 currency tenders by the union government of India during the year 2016 was a laudable and historic effort to clean up the decade's long corruption and black money. As Indian citizens, we all should be proud that we elected a government that was capable of taking such brave decisions for the long-term betterment of the country's economy. In the present economic situation, black money has inflated prices in real estate, gold, and a few other sectors, making it a challenge for an ordinary Indian citizen to invest. However, the government's attempt to curb black money will significantly lower the prices in the country.

2.3 Perceived Risk

Many studies have shown the impact of perceived risk on the adoption of various innovations, such as online shopping (Forsythe and Shi (2003), e-services (Featherman and Pavlou (2003))) and e-commerce (Kim et al., 2008). tested it.)) However, Mitchell (1999) provided only some evidence of perceived risk sources that the perceived risk is due to certain types of uncertainty. Lim (2003) describes the technology, suppliers, and e-commerce products Konchar et al. (2004) found that internal uncertainty is an essential source in a given situation. It also emphasizes that perceived uncertainty can lead to the perceived risk in an online context (Pavloo et al., 2007). 2010) found the usefulness of Facebook, Inc. This is an essential factor in mobile banking. These studies only provide pioneers with some qualitative insights into perceived risk. Laroche et al. (2004) found that intangible services pose severe risks to consumers. Mann and Sakhni (2013) reported that trust and loyalty to perceived risks in online banking were negatively impacted. Another study showed that website quality was negatively correlated with the perceived risk associated with online shopping (Kim and Lennon, 2013). However, little is known about the determinants that further influence perceived risk associated with mobile services. Previous research has shown that perceived

risk is a multidimensional interpretation of the context of e-commerce (Featherman and Pavlou, 2003; Lim, 2003; Martins et al., 2014). We assume a five-dimensional measure of perceived risk in mobile payments, including perceived financial risk, integrity risk, performance risk, psychological risk, and time risk, according to Featherman and Pavlou (2003). *Perceived technical uncertainty* is defined as consumer perception of uncertainty about mobile payment systems' stability, reliability, and security. Uncertainty about wireless charging, performance, and connectivity in this article (Song, 2001; Heavey and Simsek, 2013). Consumer perceptions of IT security are considered an essential part of perceived uncertainty regarding online exchange (Pavlou et al., 2007). A significant advantage of mobile payments over other payment methods is ubiquity. Consumers will be seriously concerned about the risks if they are not familiar with mobile payment technology in a wireless environment.

2.4 Perceived Cost:

The concept of perceived cost has been proposed as a decisive factor in the consumer's intention to adopt new technology, claiming that a high price structure could be a significant barrier to adoption. Loirne and Lin (2005). M billing service usage includes charges such as headset fee, subscription fee, service fee, and communication fee Consumers may find M's payment service unattractive and unnecessary if the extra cost is high or if the benefits of using a payment service do not provide value for money. Several studies suggest that perceived cost can be a significant barrier to the introduction of new technologies into mobile services (Cheong & Park, 2005; Kuo& Yen, 2009; Luarn& Lin, 2005; Wang et al., 2006;

Wei et al., 2009; Zhou, 2011) "Perceived cost" is described in Amberg et al. (2003) From mobile service adoption analysis. It also appears to be an essential vehicle for distributing mobile payments. In the Pousttchi survey (2003), 83% of respondents rated not buying a new phone as "very important" or "important". In the same study, only 8.5% of respondents were ready to pay a Q5 or higher annual fee. Only a third of respondents agreed to use it with a transaction fee of 0.10 C\$. Cost-based categories can also include non-financial costs such as health risks. Health risks that may arise from using a mobile phone include the thermal effects of microwave radiation and an increased risk of accidents while driving and using Cellular phones (Maier et al., 2000).

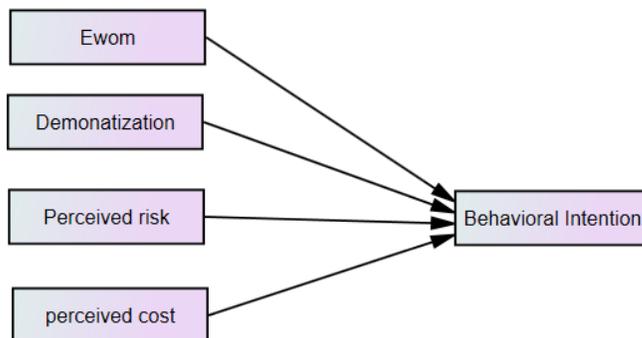
3. Research Objectives

- The primary objective of this study is to identify the antecedents of behavioural intention towards mobile payment applications and also to construct the theoretical model to know the association between the factors.
- To examine the association between demographic factors with behaviour intention towards mobile payment applications
- To assess the impact of demonetization event on the of mobile payment applications

3.1 Research methodology

Surveys were used for data collection. All syntax metrics have been adapted from the existing literature and slightly modified to fit the context of the study. Measurement points for each design of the questionnaire were retrieved from valid and reliable measurements obtained from the existing literature on technology transfer and mobile payments. Questions on these metrics consisted of a 5-point Likert scale, and respondents were asked to indicate their consent to statements ranging from 1 (strongly disagree) to 5 (strongly agree). A total of 220 survey responses were collected from mobile phone users who had experienced using M-payment services in the Chennai area.

3.2 Conceptual framework:



3.3 Hypothesis:

H1: Ewom has positive influence on behaviour intention of consumers towards mobile payment application

H2: demonetization has positive influence on behaviour intention of consumers towards mobile payment application

H3: perceived has positive influence on behaviour intention of consumers towards mobile payment application

H4: perceived cost has positive influence on behaviour intention of consumers towards mobile payment application

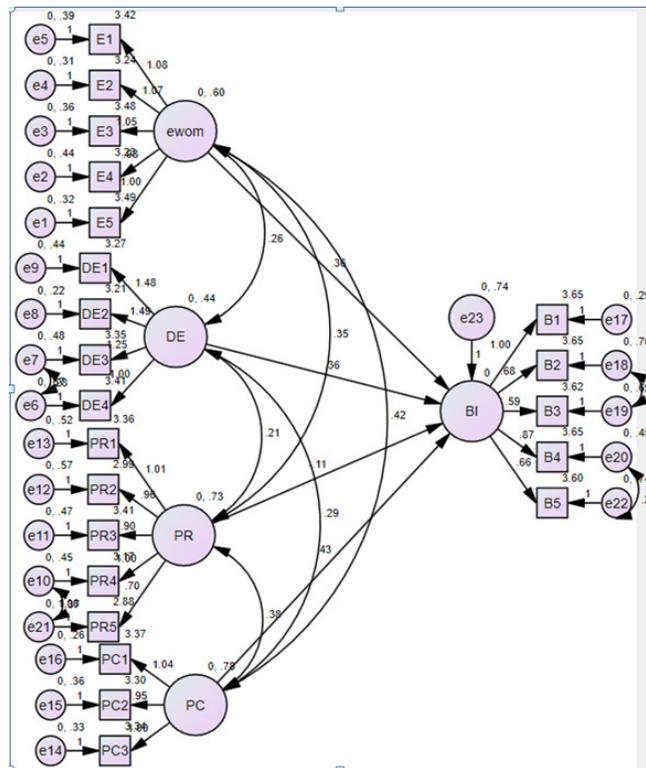
4.Data Analysis

Researcher has done sample data for analyses were 220; descriptive statistics have shown the demographic presentation of the collected sample data. Structural Equations modelling method have been applied to analyze the proposed research model. This analysis has done through applying with the help of AMOS 2.0 software and measured by observing at R², Beta, t- values, effect size and the projecting relevance of the model.

4.1 Demographic Details:

Demographic Group	Demographic Category	Frequency	Percentage
Gender	Male	137	62%
	Female	83	38%
Age	18 - 24	65	30%
	25 - 34	118	54%
	35 - 44	29	13%
	45 - 54	7	3%
	55 - 64	1	0%
	65+	0	0%
Education	Less than High School	0	0%
	HSC	4	2%
	Diploma	4	2%
	Bachelor's Degree	105	48%
	Post Graduate Degree	95	43%
	Doctorate in Philosophy	8	4%
	Others	4	2%
Family Type	Nuclear family	106	93%
	Joint family	93	82%
	Single Parent family	21	18%
Monthly Income	Less than 10,000	20	9%
	10,000 to 24,999	73	33%
	25,000 to 49,999	75	34%
	50,000 to 99,999	31	14%
	More Than 1,00,000	21	10%

5.0 Structural Equation Modelling:



In this study, the UTAUT model, including threat, Ewom, perceived risk, and perceived value, was used as independent variables.

The chi-square test was considered the most basic measure of the overall fitness analysis. Since the probability values of the squares are greater than 0.05, this proposed model was considered an acceptable and consistent model consistent with the observed data. The next parameter is the value of the root of the square (RMR). A small RMR value (<0.05) indicates a better fit for the model. This model has an RMR of 0.05 and was therefore considered appropriate. Another parameter is the Fit Quality Index (GFI), which must be greater than or equal to 0.90 for the model to fit well. This model has a GFI of 0.921, so it was considered appropriate. AGFI (modified GFI) is another parameter that justifies a good fit with a value of 0.9 or higher. This model has an AGFI value of 0.910 and was therefore considered appropriate. Several parameters used to justify the fit of models with values greater than 0.9. Almost one represents a very good match and one represents a perfect match. Gerbing and Anderson (1993) suggested that good parameters for model fit should be analyzed using the RNI, CFI, and IFI parameters. In this study, the analysis of the technical model resulted in NFI = 0.978, RFI = 0.964, and CFI = 0.912. All values are greater than 0.9, so we confirmed that the resulting model fits the model well. All of the above values are

listed in Table 7 along with standard accepted values. The root mean square approximation error (RMSEA) was another important parameter justifying the proper fit of the model over the four categories of value ranges. 0.00 to 0.05 indicates a close fit, and 0.05 to 0.08 indicates a correct fit. 0.08 to 0.10 indicates a common match. , If the reading is higher than 0.10, it indicates a mismatch. PCLOSE is another parameter related to RMSEA. The PCLOSE value must be greater than or equal to 0.05 to justify an exact match. This table shows the RMSEA and PCLOSE values for technical models 0.72 and 0.562, respectively. Since the RMSEA value was less than 0.05 and the PCLOSE value was greater than 0.05, this model was classified as a tight-fitting model.

Structural Equation Modeling

Model fit parameters	Recommended values	Values obtained
$\chi^2/d.f.$	≤ 3.00	1.90
GFI (Goodness of Fit Index)	≥ 0.90	0.921
AGFI (Adjusted Goodness of Fit Index)	≥ 0.90	0.91
CFI (Comparative Fit Index)	≥ 0.90	0.942
RFI (Relative Fit Index)	≥ 0.90	0.964
NFI (Normed Fit Index)	≥ 0.90	0.978
RMR (Root Mean Square Residual)	≤ 0.05	0.048
RMSEA (Root Mean Square Error of Approximation)	≤ 0.05	0.072
PCLOSE	≤ 0.05	0.562

6. Conclusion:

This study highlights some aspects of behavioral intent, such as perceived risk and perceived cost, that consumers of mobile payment systems face through essential pioneers of the UTAUT model. The discussion of the most critical outcomes led to the conclusion that all hypotheses except perceived risk were supported. Perceived risks associated with consumer behavior were not significantly affected by this study. According to the Nielson Survey, the most critical use cases for digital payments have been billing and online shopping, but future synergies will also affect in-store purchasing, payments, and entertainment. One of the main policy implications of this study for payment service providers is that consumers are having difficulty using mobile payment methods, so it is vital to launch a simple icon-based payment device that does

not require literacy and experience. It is a new platform for delivering services in the financial sector, and Ewom's positive drivers can play an essential role in driving the adoption of mobile payment apps. This study confirmed that the importance of perceived risk plays a vital role in preventing consumers from using mobile payments. Connect. As a result, companies should focus on considering operational and temporary risks when developing mobile payment applications.

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