
Attitude of unorganized retailers towards mobile payments

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Abstract

The research paper studies the acceptance of mobile wallet technology by unorganized retailers in India. The attributes for study have been borrowed from various technology adoption models and their extensions. The responses were collected from five metropolitan cities of India which have a high concentration of unorganized retail. The respondents were local grocery stores, milk vendors, repair and service shops and vegetable vendors. The results indicate that privacy concern, trust and security rank amongst top three factors which determine acceptance. The findings are similar to those relating to technology adoption by shoppers and contrary to those relating to merchant's adoption of technology in other countries. This study has important implications in an emerging economy like India where demonetization has enabled retailers to move from cash to cashless transactions.

Key words : mobile, payment, unorganized retail, technology

Introduction

Shin (2009) in his study on mobile wallet acceptance by consumers has revealed through the unified theory of acceptance that use of technology with security, trust, social influence and self efficacy influence consumer attitude. Another study by Hoofnagle, et al (2012) has shown that consumers do not wish to share their personal information on mobile wallets and this is another reason for reluctance in acceptance of technology. Srivastava and Chopra (2016) in his study on organized and unorganized retail in India has mentioned about the growth of Indian retail industry and shifting to online shopping and payments.

Taylor (2016) in the research on mobile payment technology infers that retailers are ignorant of the risks involved in payment technologies. They have introduced the technologies to accommodate customers with mobile payment preferences. Caldwell (2012) has mentioned that retail merchants will play a greater role in the mobile wallet security in the future. Liébana-Cabanillas (2014) carried research on the integrative theoretical model for acceptance of mobile payments and the results show that convenience in addition to risk is an important factor in deciding the payment system.

The Technology Acceptance Model (TAM) (Davis, 1986) has been used by various researchers to understand the usage intentions of technology. However, the gaps in the review of literature reveals that the model has not been applied to acceptance of technology by unorganized retail sector in India. A study by Mathieson (1991) relating to comparison between technology acceptance model and theory of planned behaviour inferred the advantages of using TAM over TPB. The current study is an attempt to understand mobile payment technology acceptance by unorganized retailers in India. Demonetization in India has played a significant role enabling the unorganized retailers switch to cashless payment options including mobile wallets (Business Standard, 2016).

Review of Literature

The technology acceptance model (Davis, 1986) shows that usage behaviour is dependent on intention to use and ease of use. The same model has been extended to include job relevance, result demonstration, experience and image of the firm (Venkatesh and Davis, 2000). Pavlou (2003) in his study integrated trust and risk with the technology acceptance model with respect to usage of e commerce. The researcher specified that different risks associated with technology include economic risk, personal risk, privacy risk and seller performance risk. Gefen and Straub (2013) in their study indicated that the perceptions differ based on gender. Another study by Cabanillas, et al (2014) with respect to mobile payments has revealed that age has a moderating effect in case of technology adoption with respect to trust and ease of use.

A study by Mathieson (1991) related to comparison of technology acceptance model (TAM) with theory of planned behaviour (TPB) for comparing user intentions in technology acceptance. The results revealed that technology acceptance model had a slight edge over theory of planned behaviour as it was easier to apply. Published literature (Oliveira and Martins, 2011) have highlighted other models of technology adoption which include diffusion of innovation theory (DOI), technology – organization – environment (TOE) framework, inter organizational systems (IOs) and institutional theory.

A study by Wu and Wang (2004) integrated TAM, DIO, perceived risk and cost in one model and for mobile commerce and called it extended TAM. The results showed that all the factors of TAM and DIO significantly affected users behavioural intent. Review of Literature on mobile payments TAM has been widely accepted to study consumer adoption of technology in making payments with modifications made by various researchers. Klopping and McKinney (2004) tested the task technology fit. (TTF) model for online shopping which specifies that how a particular technology fits a specific task. However, this study is limited to online shoppers. The benefits and risks associated with mobile payments also become an important factor in adoption of technology (Taylor, 2016).

Review of literature has shown that most of the studies on technology adoption relate to IT employees and shoppers. Mallet and Tuunainen (2008) in their research on mobile payment adoption by retail merchants has shown that increasing sales and reducing the cost of payment processing are the major factors for adoption while the major barriers are complexity of the systems, unfavourable revenue sharing models, lack of critical mass, and lack of standardization. Trust and security issues are equally important. However, further research on TAM, TPB, DIO, TTF and other studies with respect to mobile payment acceptance by unorganized merchants in India needs to be done.

A study by Business Standard (2016) has revealed that 68 % of the transactions in India are based on cash. Retail in India, especially in the rural market is a cash and carry business with small time entrepreneurs taking the lead. (Chopra, 2014). The gaps in the review of literature have shown that the various technology adoption models have not been tested in India and there is limited research done on testing the models amongst unorganized retail merchants. The current study aims to test the technology adoption attributes in Indian context with respect to unorganized retail segment.

Research Methodology

Initially exploratory study was done through personal interaction with retailers and review of literature to understand the factors governing technology adoption. Based on the exploratory study, a questionnaire was designed and a pilot study was conducted to test the questionnaire. The study was done in Mumbai city in India which has the largest population amongst all cities in the country and the largest concentration of unorganized retail. The data was collected after personal interaction with the following unorganized retailers such as kirana stores (grocery stores), milk vendors, vehicle repair shops and vegetable vendors. The unorganized retailers were randomly selected from metropolitan cities of

Maharashtra (India) as major concentration of retail and population exists in these cities. A metropolitan city is a city with population of 10,00,000 or more. The attributes for studying were borrowed from TAM, TPA and their extended models. The acceptance of technology was collected on the following attributes : ease of use, security, social influence, trust, privacy, increase in sales , standardization and cost and hence content validity was tested. The respondents were asked to rank their responses in order of preference. The questionnaire was administered to 600 respondents out of which 551 responded. Friedman test was done to understand top three attributes for acceptance of technology. Kruskal Wallis test was used to understand the difference in preference of various unorganized retailers. Reliability test was done using Kendall's W which showed consistency in responses amongst the various segment of unorganized retailers.

Data Analysis

Results of Friedman test

Mean Rank

	Pune	Mumbai	Nasik	Nagpur	Aurangabad
Privacy concern	3.07	3.24	3.44	3.94	3.17
standardization	5.40	4.96	4.86	4.65	4.94
trust	4.00	3.76	3.68	3.32	3.85
Increase in sales	5.03	5.19	5.10	4.81	5.29
Social influence	5.11	4.80	5.21	4.55	4.60
security	3.11	3.34	3.61	3.95	3.26
Ease of use	4.82	5.01	4.61	5.71	4.89

Rank Order

Shopping Motives	Pune	Mumbai	Nasik	Nagpur	Aurangabad
Privacy concern	1	1	1	2	1
standardization	7	5	5	4	5
trust	3	3	3	1	3
Increase in sales	5	7	6	6	7
Social influence	5	4	7	5	4
security	2	2	2	3	2
Ease of use	4	6	4	8	6

Test Statistics^{a,b}

N	158
Chi-Square	208.713
Df	7
Asymp. Sig.	.000

a. city of survey = Pune

Test Statistics^{a,b}

N	221
Chi-Square	227.372
df	7
Asymp. Sig.	.000

a. city of survey = Mumbai

b. Friedman Test

b. Friedman Test

Test Statistics^{a,b}

N	57
Chi-Square	51.314
Df	7
Asymp. Sig.	.000

a. city of survey = Nasik

b. Friedman Test

Test Statistics^a

N	149
Chi-Square	617.168
Df	7
Asymp. Sig.	.000

a. Friedman Test

Reliability test

Test Statistics

N	5
Kendall's W ^a	.853
Chi-Square	29.867
Df	7
Asymp. Sig.	.000

a. Kendall's Coefficient of Concordance

Inference

The data analysis indicates that top three attributes are privacy concerns, security and trust while accepting mobile technology. The Kendall's W is 85.3 % which indicates significant agreement between the respondents of different cities.

Kruskal Wallis test

Test Statistics^{a,b}

	product and store variety	shopping + entertainment	saving of money	status seeking	convenience	atmosphere	quality products	service experience
Chi-Square	1.462	.243	.369	1.075	.396	1.615	.769	1.146
df	2	2	2	2	2	2	2	2
Asymp. Sig.	.482	.885	.832	.584	.820	.446	.681	.564

a. Kruskal Wallis Test

b. Grouping Variable: type of retailer (kirana store, milk vendors, vehicle repair shops and vegetable vendors)

Inference

The results of Kruskal Wallis test indicate that there is no significant difference between responses of the different respondents across different cities.

Conclusion and Discussion

From the results, it is clear that trust, security and privacy concern rank amongst the top three issues while considering acceptance of mobile wallet technology in India. The results are in line with the extension model of TAM (Davis and Venkatesh, 2000) and Cabanillas, et al (2014). This shows that customer acceptance factors match with the retailer acceptance factors for use of technology. The current study also shows that results of mobile technology acceptance are in line with acceptance of other technologies in India and other countries. The results are contrary to those of Mallet and Tuunainen (2005) where cost and increase in sales were identified as major factors. However, the current study is on the unorganized retailers. The same study needs to be done on the organized retailers to understand technology acceptance factors for mobile wallet.

References

68% of transactions in India are cash-based: CLSA. Business Standard India, 2016, November 14.
 Caldwell, T. (2012). Locking down the e-wallet. *Computer Fraud & Security*, 2012(4), 5-8.
 Chopra, K (2014), "Ecopreneurship: Is it a viable business model?" Archers & Elevators International Journal of Management Research, Vol 2, Issue 3, March, ISSN 2348-6724.
 Chopra, K and Srivastava, A (2016). Impact of Online Marketing in Molding Consumer Behaviour. *International Journal of Engineering and Management Research*, Volume-6, Issue-1, January-February, 478-486, 2250-0758.
 Davis Jr, F. D. (1986). *A technology acceptance model for empirically testing new end-user information systems: Theory and results* (Doctoral dissertation, Massachusetts Institute of Technology).
 Gefen, D., Karahanna, E., & Straub, D. W. (2003). Trust and TAM in online shopping: an integrated model. *MIS quarterly*, 27(1), 51-90.
 Hoofnagle, C. J., Urban, J. M., & Li, S. (2012). Mobile payments: Consumer benefits & new privacy concerns.
 José Liébana-Cabanillas, F., Sánchez-Fernández, J., & Muñoz-Leiva, F. (2014). Role of gender on acceptance of mobile payment. *Industrial Management & Data Systems*, 114(2), 220-240.

Klopping, I. M., & McKinney, E. (2004). Extending the technology acceptance model and the task-technology fit model to consumer e-commerce. *Information Technology, Learning, and Performance Journal*, 22(1), 35.

Mallat, N., & Tuunainen, V. K. (2008). Exploring merchant adoption of mobile payment systems: An empirical study. *E-service Journal*, 6(2), 24-57.

Mathieson, K. (1991). Predicting user intentions: comparing the technology acceptance model with the theory of planned behavior. *Information systems research*, 2(3), 173-191.

Oliveira, T., & Martins, M. F. (2011). Literature review of information technology adoption models at firm level. *The Electronic Journal Information Systems Evaluation*, 14(1), 110-121.

Pavlou, P. A. (2003). Consumer acceptance of electronic commerce: Integrating trust and risk with the technology acceptance model. *International journal of electronic commerce*, 7(3), 101-134.

Shin, D. H. (2009). Towards an understanding of the consumer acceptance of mobile wallet. *Computers in Human Behavior*, 25(6), 1343-1354.

Taylor, E. (2016). Mobile payment technologies in retail: a review of potential benefits and risks. *International Journal of Retail & Distribution Management*, 44(2), 159-177.

Taylor, E. (2016). Mobile payment technologies in retail: a review of potential benefits and risks. *International Journal of Retail & Distribution Management*, 44(2), 159-177.

Venkatesh, V., & Davis, F. D. (2000). A theoretical extension of the technology acceptance model: Four longitudinal field studies. *Management science*, 46(2), 186-204.

Wu, J. H., & Wang, S. C. (2005). What drives mobile commerce?: An empirical evaluation of the revised technology acceptance model. *Information & management*, 42(5), 719-729.