

Consumers' Behavioral Intention and Impact of Demographic Factors in Adoption of Mobile Payment Applications in Punjab

Ratinder Kaur* and Shivani Bansal**

** School of Management, Punjabi University, Patiala*

*** School of Management, Punjabi University, Patiala*

Abstract

Smartphone can replace the plastic payment card with a mobile wallet application and can complete contactless payments. The transaction flows through an ecosystem consisting of manufacturers of smartphone, software developers, mobile network operators and financial institutions. However, the adoption of consumers has been slow and this study seeks to explain the factors that influence intention to use in order to help companies in taking various managerial and investment decisions. The researchers have studied a number of variables such as their knowledge of applications, trust on applications, ease of technology, technology security, personal risk taking power, utility of such applications, attitude towards use, facilitating conditions, influence of reference groups, awareness of users etc. The structured questionnaire was used for the purpose and 115 mobile users from the State of Punjab were taken for the purpose of survey. The data has been analyzed by using factor analysis. The ANOVA result indicates that there is significant difference in education level of consumers towards the adoption of mobile wallets. However, gender was found to have insignificant influence on adoption of mobile wallets, but age has significant effect on adoption of mobile wallets in Punjab. Along with perceived ease of use, and perceived usefulness and perceived trust has also shown a significant effect on adoption of mobile wallet applications.

Key Words

Mobile Payments, Smartphone Users, Cashless Economy

INTRODUCTION

In the case of a cashless economy, the amount of cash transactions is considerably lower as the majority of transactions are done using electronic means such as cards or digital mobile wallets (Dave, 2016). Cashless transactions are more convenient than cash. Long ATM queues are not necessary. The cashless economy provides the government with much more financial inclusion and increases economic growth. Banks have an easier task to track financial transactions across the countries. Furthermore, the cashless economy reduces the burden on the transport of cash, in particular, preventing exchange-rate payments (Odior and Banuso, 2012).

However, even in cashless transactions, there are some challenges. When a cashless transaction takes place, there is a lack of confidence, as security is a major concern (Ghosh, 2017). Problems and challenges of the cash-free economy in India are mainly because of two reasons. Firstly, India is a country with a population of over 1.7 billion, economically and socially diverse and federally governed. While the central government has the power to take steps towards cash free economy, on the other hand, there is always a conflict between state and centre. Secondly, there is enormous economic disparity in India (Statistics Times 2015). Therefore, understanding the challenges of adopting a cashless economy in a state like Punjab will give us an in-depth understanding of the challenges of adopting these in other states and countries as well.

In financial transactions, digital payments play the role of the equalizer. In 2015, Prime Minister Narendra Modi said at the launch of Digital India Week that his ultimate dream is becoming reality because government initiative of cashless economy started bringing results, coz many companies are entering into fintech and overall value of transactions has enormously increased about \$50 million in 2018 and are expected to reach \$700 billion by 2022 (Businessworld, 2019).

Worldwide Growth of Mobile Payments

The mobile market for the payments will expand from \$4,574 billion between 2017 and 2023 by a CAGR of 33.8 per cent. Currently, services and goods providers offer their services extensively through mobile applications to help customers with a simple and convenient shopping experience. The increase in demand for easy and strap-forward purchases of goods and services increases consumer preference for digital and non-cash payments. Several global players, like Apple and Samsung, have developed new strategies for expanding their reach and increasing their share of mobile payment globally.

Growth of Mobile Wallets in India

The mobile wallet ecosystem in India is still competitive but major e-commerce and telecommunications companies are encouraging this industry by expanding business. Furthermore, the exponential growth in the digital payment ecosystem in India is still under strong regulatory support. The changing behavior of customers, an increase in the rate of Internet penetration and public policies fuel the industry indirectly and supported by the increasing request for peer to peer payments, e-commerce platforms, payments on utility bills, etc. The digital infrastructure development in India is distinguished by offering the digital payment industry a powerful technological ecosystem.

Some of the leading companies covered in the 'Market for digital payment systems in India' are Paytm, MobiKwik, PayUmoney, Vodafone Mpesa, Idea Money, State Bank Buddy, HDFC Bank PayZapp, ICICI Bank Pockets, Axis Bank LIME, Freecharge, PhonePe, Samsung Pay and many others.

M-wallet players are finding an opportunity in government's initiatives of demonetization. It is estimated that during 2017, share of m-wallet service in the m-payment volume transaction has increased up to 30% and there is an estimate that contribution of m-wallet in total mobile expense volume transaction was 20% which is expected to increase to 57% by year 2022. The increased usage of mobile wallets have increased due to its ease of use. In India, mobile wallets is likely to reach USD 6.6 billion by 2020 as per the India Mobile Wallet Market Forecast and Opportunities, 2020 (Report on Associated Chambers of Commerce and Industry of India, 2016).

REVIEW OF LITERATURE

M-Payment makes business transactions between providers and consumers more efficient and safe (Ondrus & Pigneur, 2006). The financial transaction is initiated, authorized and completed via mobile devices (Mallat, 2007) by m-Payments. Main methods of m-payment are short message (SMS), unstructured supplementary service (USSD), wireless application protocol (WAP), mobile wallet and NFC. A large use of mobile telephones can provide the customers with an easy and convenient transaction platform (Teo, Tan, Ooi, Yew, 2015); cashless transactions and highly volume secure transactions (Leong, Hew, Tan; and Ooy, 2013). The use of mobile phones is suitable in case of payment. The use of m-payment is considerable to both consumers and service providers. M-payment services are growing rapidly in many countries with market companies understanding their advantages (Merritt, 2011). M-payment as a

strategic tool for companies to gain a competitive advantage can be used (Ondrus & Pigneur, 2006). Some authors referred to mobile banking as equivalent to or similar (Donner & Tellez 2008; Slade, Williams & Dwivedi 2013). But in terms of the number of parties involved, these two systems are distinctive. Banks are connected to the user directly in mobile banking, whereas a third party is required to complete the entire process in m-payment (Oliveira *et al.*, 2016).

M-Payment Adoption Intention

The focus group analysis of Mallat (2007) explored the relative benefit, compatibility, complexity, costs, extension of the network, trust and perceived security risks as determinants of payments. In the light of Technology Acceptance Model in Germany, Pousttchi and Wiedemann (2007) have carried out a study and they argued that the intention to adopt m-payment has a major impact on PU, PEOU and task-technology. Subjective safety, however, is of little significance. Moscow *et al.* (2008) concluded that existing research is well-covered by consumer and technical perspectives, but few studies indicated the impact of payment adoption on social and cultural factors. Kim *et al.* (2010) studied about the TAM model which was adopted by two consumer-focused systems and four characterized by explaining factors that influence the adoption of m-payment in Korea. They found that knowledge of Perceived Intention and Mobile Payment Applications, mobility, ease of reach and convenience have a major impact on adoption of MPA. In m-payment adoption decision, however, compatibility has no role to play. Zhou (2011) carried out a study in China to measure the impact of confidence on the intention of adoption by m-payment. The study findings showed that perceived security, perceived ubiquity and PEOU influence the trust directly on the intention of use. The impact of technical and behavioral factors on m-payment adoption has been examined by Keramati, Taeb, Larijani and Mojir (2012). The findings of the study suggested an important impact on adoption purposes, ease of use, utility, confidence, compatibility, costs, norms, payment methods and skills and convenience. They also looked at the impact on adoption behavior of cultural and demographic characteristics. In comparison with the theory of planned behavior (TPB) model in China and Malaysia, Ting, Yacob, Liew and Lau (2015) argued that attitude and perceived behavior had a considerable impact on m-payment adoption in both countries. Arvidsson (2016) conducted a study in Sweden and found that technological feasibility, lower service costs, added service value and ease of use have important repercussions on both customers and stakeholders for the m-payment service. Oliveira *et al.* (2016) has done a study in order to assess the intention of adoption in Portugal. UTAUT2 and DOI models found a significant

association with innovativeness, compatibility, performance expectancy, effort expectancy and social influence.

OBJECTIVES

- To study various factors affecting the consumer perception towards the adoption of mobile payment applications in Punjab.
- To find out the impact of various demographic variables on adoption of mobile wallets.

RESEARCH METHODOLOGY

The study has used an empirical method of research. In order to collect the required data effectively and efficiently questionnaires were used. Survey was done manually as well as using the google forms. All data collected were, therefore, validated and used for data analysis, which yielded a 100 percent response rate. The study included respondents who actively used Smartphone and a random choice of 115 respondents in population which is infinite. Through Simple Random Sampling method, cities of Punjab have been selected (Patiala, Ludhiana, Jalandhar). Pilot study has been done to check the reliability and validity of the adopted questionnaire. In the first page of the questionnaire, an explanation for mobile wallet was provided to ensure that respondents could reply to all questions more precisely. The survey is divided into two parts. Questions concerning the demographic information of the respondent were asked in the first part. In the second part, total of 10 questions were asked with Five Point Likert Scale, which represented 3 factors. Exploratory factor analysis has been used for the purpose. Anova, T-test, Cronbach's Alpha were used to check reliability. The scope of the study was 115 smart phone users of Punjab region only.

DATA ANALYSIS AND INTERPRETATION

The Cronbach's Alpha is larger than 0.6 for each construct in the pilot study as recommended by Hair *et al.* (2010) and shown in Table 1. This shows that we are able to use the constructs for further analysis by establishing reliability between them. The Cronbach's Alpha shows the internal consistency of the data as value shown in Table 1 is .767 which is reliable for the study.

All the statements were measured on a Five Point Likert Scale ranging from 1 = Strongly Disagree to 5 = Strongly Agree. These were subjected to exploratory factor analysis using Principal component analysis with Varimax rotation. The KMO value found from the study for checking the Sample Adequency is shown in Table

2 as .622 which also shows the sample is adequate as the threshold value for KMO value is greater than .60. There were three factors with Eigen Value greater than one which were extracted and labelled as Factor 1-Perceived Ease of Use (PEOU); Factor 2-Perceived Compatibility (PC) and Factor 3- Perceived Trust (PT) respectively.

Table 1
Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.767	.785	10

Table 2
KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.635
Bartlett's Test of Sphericity	Approx. Chi-Square	417.435
	Df	45
	Sig.	.000

Table 3
Total Variance Explained

Component	Initial Eigen Values			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.598	35.980	35.980	3.598	35.980	35.980	2.349	23.489	23.489
2	1.640	16.402	52.381	1.640	16.402	52.381	2.250	22.502	45.990
3	1.182	11.823	64.204	1.182	11.823	64.204	1.821	18.214	64.204
4	.988	9.882	74.087						
5	.735	7.346	81.432						
6	.560	5.602	87.034						
7	.463	4.631	91.665						
8	.435	4.347	96.012						
9	.224	2.242	98.254						
10	.175	1.746	100.000						

Extraction Method : Principal Component Analysis.

Communalities show that components with specific factors share the normal changes. Higher values of communalities showed that the variable extracted in the factor analysis has fluctuated. Table 4 shows that communalities are greater than 0.4 for each variable. Communality values should be 0.4 or more noteworthy for a better estimation of factor analysis.

Table 4
Communalities

	Initial	Extraction
Using mobile payment systems would enhance my effectiveness in making payments.	1.000	.757
Using a mobile wallet would help me pay more quickly	1.000	.699
Mobile payment is compatible with other systems I use.	1.000	.825
I believe mobile payment systems are trustworthy.	1.000	.832
My interaction with mobile payment system would be clear and understandable.	1.000	.679
I am familiar with the technology used in mobile wallet	1.000	.781
Mobile wallet is better than normal banking channel.	1.000	.845
I would feel secure sending sensitive information across mobile payment	1.000	.847
I feel very comfortable in using mobile wallet	1.000	.657
I will strongly recommend others to use mobile payment systems.	1.000	.797

Extraction Method : Principal Component Analysis

The three factors have been extracted from 10 statements which is shown below (Table 5) as per the statements contained in particular factor.

Table 5
Statements of the Questionnaire as per the Factors

Factor	Item	Question
Perceived Ease of Use	PEOU1	Using mobile payment systems would enhance my effectiveness in making payments.
	PEOU2	I feel very comfortable in using mobile wallet
	PEOU3	Using a mobile wallet would help me pay more quickly
	PEOU4	My interaction with mobile payment system would be clear and understandable.
Perceived Compatibility	PU1	Mobile payment is compatible with other systems I use.
	PU2	I believe mobile payment systems are trustworthy.
	PU3	I will strongly recommend others to use mobile payment systems.
Perceived Trust	PT1	I am familiar with the technology used in mobile wallet
	PT2	Mobile wallet is better than normal banking channel.
	PT3	I would feel secure sending sensitive information across mobile payment

AVE (Average Variance Extracted) is used as a criterion to test convergent validity, the value greater than 0.5 shows in Table 6 that more than half of the latent variable explains variance of its indicators. Subsequent to acquiring a factor matrix, an attempt was made to give some name to the factor loadings as shown in Table 6. Scale Composite Reliability (SCR) was established using value 0.7 in all cases which are close to the threshold limit. The proposed model is, therefore, both reliable and valid for further analysis.

Table 6
Factor Loadings, Cronbach's Alpha, Scale Composite Reliability and AVE.

Component	Items	Factor Loadings	Cronbach's Alpha	Scale Composite Reliability	Average Variance Extracted
Perceived Ease of Use	Using mobile payment systems would enhance my effectiveness in making payments.	.757	.733	.792	.488
	I feel very comfortable in using mobile wallet	.657			
	Using a mobile wallet would help me pay more quickly.	.699			
	My interaction with mobile payment system would be clear and understandable.	.679			
Perceived Compatibility	Mobile payment is compatible with other systems I use.	0.825	.791	.859	.502
	I believe mobile payment systems are trustworthy.	0.832			
	I will strongly recommend others to use mobile payment systems.	0.797			
Perceived Trust	I am familiar with the technology used in mobile wallet.	0.781	.793	.864	.510
	Mobile wallet is better than normal banking channel.	0.845			
	I would feel secure sending sensitive information across mobile payment	0.847			

Source : Developed by Researchers

Descriptive Statistics shows (Table 7) that Ist factor is more important because the mean of Ist factor is more than other two factors. It shows that the factor Perceived Ease of use is more helpful in adopting Mobile Payment applications among users of Punjab.

Table 7
Descriptive Analysis

Descriptive Statistics	N	Mini- mum	Maxi- mum	Mean	Std. Deviation
REGR Factor Score 1 for Analysis 1	115	2.50	5.00	4.1200	.61749
REGR Factor Score 2 for Analysis 1	115	1.50	5.00	3.7576	.56141
REGR Factor Score 3 for Analysis 1	115	2.00	5.00	3.5429	.71340
Valid N (Listwise)	115				

Source : Extracted by Researcher

Demographic Analysis

Table 2 represents the demographic characteristics of the respondents. 59.3% of the respondents were males and 48.6% of respondents were females. Age was divided into two groups and the proportion of age was dominated by age group of 15-30's which is of total 59.1%. In addition, education of the respondents is divided into four groups, from this we found that most of the respondents are Post-graduates and are 67.82% of the sample.

Table 8

Demographic		Frequency	Percent (%)
Gender	Male	59	51.3
	Female	56	48.6
Age	15-30	68	59.1
	Above 30	37	32.17
Education	Matriculate	5	4.34
	Intermediate	12	10.43
	Graduate	20	17.39
	Post-Graduate	78	67.82

The investigation found out that the $P < 0.05$ for each of the construct and therefore, there was significant difference between the education levels of the

Table 9
Education Level Analysis

		Descriptives									
	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum			
					Lower Bound	Upper Bound					
REGR Factor Score 1 for Analysis 1	5	.1125034	.96286185	.43060491	-1.0830475	1.3080543	-1.14416	1.35454			
	12	-.0817896	.94960112	.27412623	-.6851374	.5215581	-1.30346	1.54975			
	20	.2056694	.77103621	.17240894	-.1551866	.5665255	-1.17301	1.60745			
	78	-.0473645	1.06851299	.12098527	-.2882769	.1935480	-4.03294	2.30776			
	Total	115	.0000000	1.00000000	.09325048	-.1847285	.1847285	-4.03294	2.30776		
REGR Factor Score 2 for Analysis 1	5	-.8208823	.74439813	.33290497	-1.7451747	.1034100	-1.84017	.22986			
	12	-1.2285823	1.25598672	.36257214	-2.0265982	-.4305664	-3.50593	.70238			
	20	.5114124	.81558866	.18237117	.1297052	.8931196	-.79865	1.93384			
	78	.1105019	.83841956	.09493232	-.0785325	.2995363	-2.31791	1.77624			
	Total	115	.0000000	1.00000000	.09325048	-.1847285	.1847285	-3.50593	1.93384		
REGR Factor Score 3 for Analysis 1	5	-.5518307	.68252331	.30523371	-1.3992953	.2956339	-1.22089	.55076			
	12	-1.1058137	1.87579365	.54149499	-1.2976361	1.0860087	-2.50848	3.20292			
	20	.4514381	.84670888	.18932986	.0551662	.8477101	-.90425	1.83850			
	78	-.0641006	.83555146	.09460757	-.2524883	.1242872	-2.01661	1.91742			
	Total	115	.0000000	1.00000000	.09325048	-.1847285	.1847285	-2.50848	3.20292		

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
REGR Factor Score 1 for Analysis 1	Between Groups	1.165	3	.388	.382	.046
	Within Groups	112.835	111	1.017		
	Total	114.000	114			
REGR Factor Score 2 for Analysis 1	Between Groups	27.665	3	9.222	11.856	.003
	Within Groups	86.335	111	.778		
	Total	114.000	114			
REGR Factor Score 3 for Analysis 1	Between Groups	6.053	3	2.018	2.075	.058
	Within Groups	107.947	111	.972		
	Total	114.000	114			

respondents (Table 9). The study also found that there is also a significant difference between the ages of the respondents in adopting the mobile wallets (Table 10). It was revealed by the study that there is not any significant difference between gender of the respondents in adoption of mobile payment applications in India as t-value is greater than 0.05 (Table 11).

Table 10
Age Analysis

Group Statistics					
	Age	N	Mean	Std. Deviation	Std. Error Mean
REGR Factor Score 1 for Analysis 1	1.0	68	.0083360	1.08005755	.13097622
	2.0	37	-.0459010	.96203700	.15815791
REGR Factor Score 2 for Analysis 1	1.0	68	-.2013041	1.13281124	.13737354
	2.0	37	.3877065	.70219438	.11544005
REGR Factor Score 3 for Analysis 1	1.0	68	-.1204812	1.17994772	.14308968
	2.0	37	.1958474	.60188983	.09895008

Independent Samples Test										
		Levene's Test for Equality of Variances		t-Test for Equality of Means						
		F	Sig.	t	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
REGR Factor Score 1 for Analysis 1	Equal Variances Assumed	.948	.033	.255	103	.799	.05423700	.21252537	-.36725694	.47573094
	Equal Variances not Assumed			.264	81.671	.792	.05423700	.20535017	-.35429457	.46276857
REGR Factor Score 2 for Analysis 1	Equal Variances Assumed	7.206	.008	-2.873	103	.005	-.58901062	.20500828	-.99559619	-.18242505
	Equal Variances not Assumed			-3.283	101.156	.001	-.58901062	.17943772	-.94496012	-.23306112
REGR Factor Score 3 for Analysis 1	Equal Variances Assumed	14.035	.000	-1.524	103	.131	-.31632853	.20755681	-.72796852	.09531145
	Equal Variances not Assumed			-1.818	102.694	.072	-.31632853	.17397061	-.66137042	.02871335

Table 11
Gender Analysis

Group Statistics										
		Gender	N	Mean	Std. Deviation	Std. Error Mean				
REGR Factor Score 1 for Analysis 1		1.0	59	-.0232389	1.06880210	.13914618				
		2.0	56	.0244839	.93106945	.12441939				
REGR Factor Score 2 for Analysis 1		1.0	59	-.0625492	1.14901128	.14958853				
		2.0	56	.0659001	.81967631	.10953385				
REGR Factor Score 3 for Analysis 1		1.0	59	.1004202	1.11893573	.14567302				
		2.0	56	-.1057998	.85451947	.11418997				

Independent Samples Test										
		Levene's Test for Equality of Variances		t-Test for Equality of Means						
		F	Sig.	t	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower		Upper
REGR Factor Score 1 for Analysis 1	Equal Variances Assumed	.685	.409	-.255	113	.799	-.04772278	.18733436	-.41886593	.32342037
	Equal Variances not Assumed			-.256	112.192	.799	-.04772278	.18665970	-.41755815	.32211259
REGR Factor Score 2 for Analysis 1	Equal Variances Assumed	6.891	.010	-.687	113	.494	-.12844925	.18699814	-.49892630	.24202779
	Equal Variances not Assumed			-.693	105.029	.490	-.12844925	.18540332	-.49606862	.23917011
REGR Factor Score 3 for Analysis 1	Equal Variances Assumed	1.331	.251	1.106	113	.271	.20621999	.18638126	-.16303490	.57547488
	Equal Variances not Assumed			1.114	108.125	.268	.20621999	.18509451	-.16066463	.57310460

FINDINGS OF THE STUDY

As a financial alternative system, m-payment is taken into account by users worldwide. A comprehensive study was done for the purpose of satisfying the gap to explore factors affecting the intention to take payments in India. The results show that PEOU, PU Perceived Trust have a major impact on adoption. These findings provide the m-payment service provider with instructions to understand user priorities. Once user-centered information is received, organizations can develop their strategies accordingly.

The organization can also position its services according to consumer choices that can increase the adoption rate. The results provide important information for m-payment third parties, banks and other entities. This study helps the government to implement the financial integration and cashless economy.

LIMITATIONS OF THE STUDY

This paper examines key factors that influence m-payment adoption intention but there are certain limitations in present study. The study respondents are only users of m-payment. A study between users and non-users of m-payment could be carried out in future to determine the effect of various factors on both groups. In addition, most samples are between 15-40 years of age. Multi-group analysis among different age groups and better understanding can be extended to further study. This research is restricted to m-payment users from Indian countries only. In order to know important factors in other cultures and contexts further studies are required. This study is restricted to user-centered factors only, and stakeholder-centered factors for future research can also be considered. Additional research can be carried out to investigate the mediating effect of Perceived Ease of Use and Perceived Usefulness in order to improve the predictive model for adoption. In a longitudinal study, the important factors that affect Mobile Payment Adoption Intention can be better explored.

CONCLUSION

After currency demonetization in India, the pace of adoption has dramatically increased. Because of the high wireless density, m-payment might be the best choice for cashless transactions. The majority of the Indian banks have launched and advertised their wallet strongly to tap into the market. Innovative services to attract new users are also provided by existing m-

payment service providers, since India is an emerging potential m-payment market. The study indicates that demographic factors also affect in adoption of mobile wallets or mobile payment applications in India. From an executive point of view, the results of this study have several effects on the upgrading of the MPS to increase adoption in India. The important factors found in study are perceived usefulness, perceived ease of use and perceived trust which affects positively and indicates that users can easily use m-payment applications if they have technical knowledge. Service providers should organize awareness campaigns about utility and convenience. This study is one of the few studies that empirically examined factors affecting the intention to accept m-payments in Punjab. Knowledge of the factors that influence m-payment adoption may help service providers to develop strategies for people to use m-payment.

References

- Adiseshann, A. (2018), Retrieved from Business World : <http://www.businessworld.in/article/Digital-Payments-Paving-the-Way-for-a-Prosperous-Digital-India-2-0/08-11-2018-163577/>
- Arvidsson, N. (2014), Consumer Attitudes on Mobile Payment Services – Results from A Proof of Concept Test, *International Journal of Bank Marketing*, 32(2), 150-170.
- Dave, Riju (2016), Cashless Payment Benefits : Here Are the Advantages of Cashless Payments and the Pitfalls You Should Beware of ET Bureau. <http://economictimes.indiatimes.com/wealth/spend/going-cashless-is-it-good-for-you/articleshow/55908649.cms>.
- Donner, J.; and Tellez, C. A. (2008), Mobile Banking and Economic Development : Linking Adoption, Impact and Use, *Asian Journal of Communication*, 18(4), 318-332.
- Ghosh (2017), A Cloud-based Mobile Application for Cashless Payments to Enhance Transportation Mobility in India?, In *Advances in Smart Cities : Smarter People, Governance, and Solutions*, edited by A. K. Kar and Y. K. Dwivedi, 115-26. Taylor & Francis Incorporated. <https://books.google.co.in/books?id=epoIvgAACAAJ>.
- Keramati, A.; Taeb, R.; Larijani, A. M.; and Mojir, N. (2012), A Combinative Model of Behavioural and Technical Factors Affecting 'Mobile'-Payment Services Adoption : An Empirical Study, *The Service Industries Journal*, 32(9), 1489-1504.

- Kim, C.; Mirusmonov, M.; and Lee, I. (2010), An Empirical Examination of Factors Influencing the Intention to Use Mobile Payment, *Computers in Human Behavior*, 26(3), 310-322.
- Leong, L. Y.; Hew, T. S.; Tan, G. W. H.; and Ooi, K. B. (2013), Predicting the Determinants of the NFC - Enabled Mobile Credit Card Acceptance : A Neural Networks Approach, *Expert Systems with Applications*, 40(14), 5604-5620.
- Lu, J.; Yao, J. E.; and Yu, C. S. (2005), Personal Innovativeness, Social Influences and Adoption of Wireless Internet Services via Mobile Technology, *The Journal of Strategic Information Systems*, 14(3), 245-268.
- Mallat, N. (2007), Exploring Consumer Adoption of Mobile Payments – A Qualitative Study, *The Journal of Strategic Information Systems*, 16(4), 413-432.
- Merritt, C. (2011), Mobile Money Transfer Services : The Next Phase in the Evolution of Person-to-Person Payments, *Journal of Payments Strategy & Systems*, 5(2), 143-160.
- Odior, Ernest Simeon; and Fadiya Bamidele Banuso (2012), Cashless Banking in Nigeria : Challenges, Benefits and Policy Implications, *European Scientific Journal*, 8(12), 289-316.
- Oliveira, T.; Thomas, M.; Baptista, G.; and Campos, F. (2016), Mobile Payment : Understanding the Determinants of Customer Adoption and Intention to Recommend the Technology, *Computers in Human Behavior*, 61, 404-414.
- Ondrus, J.; and Pigneur, Y. (2006), Towards a Holistic Analysis of Mobile Payments : A Multiple Perspectives Approach, *Electronic Commerce Research and Applications*, 5(3), 246-257.
- Pousttchi, K.; and Wiedemann, D. G. (2007), What Influences Consumers Intention to Use Mobile Payments, *Los Angeles : Proceedings of the 6th Annual Global Mobility Roundtable*, 1-16.
- Slade, E. L.; Williams, M. D.; and Dwivedi, Y. K. (2013), Mobile Payment Adoption : Classification and Review of the Extant Literature, *The Marketing Review*, 13(2), 167-190.
- Tan, G. W. H.; Ooi, K. B.; Chong, S. C.; and Hew, T. S. (2014), NFC Mobile Credit Card : The Next Frontier of Mobile Payment? *Telematics and Informatics*, 31(2), 292-307.
- Teo, A. C.; Tan, G. W. H.; Ooi, K. B.; Hew, T. S.; and Yew, K. T. (2015), The Effects of Convenience and Speed in m-payment, *Industrial Management and Data Systems*, 115(2), 311-331.
- Times, Statistics (2015), Indian States by GDP per Capita?, *Statistics Times*, <http://statisticstimes.com/economy/gdp-capita-of-indian-states.php>.
- Zhou, T. (2011), The Effect of Initial Trust on User Adoption of Mobile Payment, *Information Development*, 27(4), 290-300

Annexure

QUESTIONNAIRE

Part 1 - Demographic Profile

- Gender - Male Female
 Age - 15-30 Above 30
 Education - Matriculate Intermediate
 Graduate Postgraduate

Part 2 - Please tick how strongly you agree or disagree with each of these statements on the Likert Scale. The scale Denotes Strongly Disagree (SD) - 1, Disagree (D) - 2, Neutral (N) - 3, Agree (A) - 4, Strongly Agree (SA) - 5.

Sr. No.	Statements	SD	D	N	A	SA
1.	Using mobile payment systems would enhance my effectiveness in making payments.					
2.	Using a mobile wallet would help me pay more quickly					
3.	Mobile payment is compatible with other systems I use.					
4.	I believe mobile payment systems are trustworthy.					
5.	My interaction with mobile payment system would be clear and understandable.					
6.	I am familiar with the technology used in mobile wallet					
7.	Mobile wallet is better than normal banking channel.					
8.	I would feel secure sending sensitive information across mobile payment					
9.	I feel very comfortable in using mobile wallet					
10.	I will strongly recommend others to use mobile payment systems.					