

Impact Based Study on Mobile Wallets in India

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ABSTRACT

With the rapid technological advancements taking place around the world every day, mobile phones and internet connectivity have posed as one of the most significant inventions done by mankind. This was made possible with the inception of mobile wallets in the technological world. Mobile wallet is a virtual wallet that stores payment card information on mobile devices. The mobile wallet industry is estimated to grow 150% to approximately \$4.4 billion by 2022. This accelerated increase is estimated due to increased adoption and inclusion of the platform that is backed by the government.

The present study aims to explain the impact and adoption of mobile wallets and consumer perception towards the same. A structured questionnaire was prepared for this study and data was collected from 299 valid respondents and factors affecting adoption and threats was analyzed using various statistical tools. An online survey was circulated and the data was collected through convenience sampling. The survey consisted of 15 objective questions which collected information regarding preference, adoption, threats and demographic details. Statistical analysis was performed on IBM SPSS 22. The data was tested for Reliability using Cronbach's Alpha, Normality using Shapiro-Wilks and ANOVA were performed to check significant difference in adoption, threat and preference for different groups of various demographic variables such as age, gender, occupation, education and income level. Regression analysis was also conducted using linear regression to check impact of variables such as ease to use, security and safety and accessibility on the reputation of the company.

The study showed many findings in relation to preference, adoption and threats relating to mobile wallets. Paytm emerged to be the current market

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leader with recharges and money transfer as the most popular services accessed. It was found that there was a significant difference for adoption of mobile wallets among age groups of 16-25 & 36-45 and Students & Businessmen with the first group in each case showing favorable outcomes in adoption. Another finding was the presence of significant difference in relation to preference of mobile wallet over other cashless alternatives among the group of Student & Businessmen and the low income (0-15 lakhs per annum) and high income groups (16 lakhs and above per annum) with the latter group preferring other alternatives in both the situation. The study suffers from the limitation of sampling and since the data was collected through surveys it is open to subjective bias as well. Time constraint is also a major limitation of this study. The implication of the study is to determine factors that affect the adoption and reputation of the company in this fast paced, rapidly growing industries so that current market players can work with the findings to adapt and change to retain their position in the industry and also to sustain their market share. The study was conducted with primary data and the analysis was performed personally with the finding being drawn on first hand basis indicating the utmost originality of the study. References for secondary data are also mentioned in APA format.

Keywords: Mobile Wallets, Cashless Payment, Monetary Transactions, Consumer Perception, SPSS, ANOVA

INTRODUCTION

With advancement in technology, things around us have changed drastically. Technology caters to man's comfort and convenience. With the help of your smartphone, you can do everything. Be it ordering food or groceries, booking a cab or movie tickets, etc.

Ever since mobile wallets have been introduced, we have found way to the extremely convenient way for making cashless transactions. The wallets cater to a host of services including entertainment, payments, communications and socializing.

The mobile wallet industry has been on a strong growth trajectory in the past five years. There are a number of tailwinds pushing the industry along its growth trajectory, which include increased technology adoption, overall growth of the e-commerce industry and rising need for convenience among consumers.

Mobile wallets help as a single platform offering different types of financial services at the tips of our fingers without even visiting a physically present bank.

Topic and Problem Statement

This research primarily aims to study the perception towards adoption and threats to adoption faced by the mobile wallet platforms. The following is the problem statement for this study:

What are the factors that affect the usage and acceptance of Mobile Wallet systems in India?

REVIEW OF LITERATURE

Businesses are swiftly moving towards digital modes of transactions. Companies are emerging in the financial sector that are transforming the way businesses operate with the increasing use of mobile phones and devices. One such area in the financial industry, that uses mobile technology such as smartphones, tablets or computers, is the payments sector. The mobile wallet is an application that can be installed in a smartphone or accessed on a personal computer that stores credit card, debit card, coupons, or reward cards information. Mobile wallets offer a lot of advantages over traditional methods of payment.

Advantages of mobile wallets

The following are the advantages of mobile wallets:

1. Easier Accessibility and usage – Mobile wallets can be easily downloaded on smart phones and can be used without hassle.
2. Different uses- Mobile wallets provide a platform for a variety of uses such as bill payments for DTH, data card, electricity and broadband to ticket booking for buses, trains or flights and paying fees and dues for institutions like colleges or coaching centers. They even facilitate cashless payments at a lot of stores for buying goods and services.
3. Quick transfer of funds – These wallets facilitate quick and easy transfer of funds from one individual to another. They easily store debit card, credit card or net banking payment information and assist users to make quick payments as and when required.
4. Incentives, promotional and discount coupons - Each wallet comes with its own set of incentives. E-wallets give plenty of money saving avenues through discounts, cashbacks, offers and free gifts. You can benefit the maximum by going through their offer section and making optimum use of promo codes.
5. Split bill facilities- Several mobile wallet platforms such as Mobikwik and FreeCharge provide options of splitting bills with friends which can be done by simply entering the total bill amount the number of people sharing the bill. A link is automatically generated which can be shared with people who owe us money.

Apart from these advantages, mobile wallets still pose a lot of disadvantages for consumers.

Disadvantages of mobile wallets

Following are the disadvantages of mobile wallets:

1. Network/Internet Connectivity- One of the major issues that mobile wallet users face is unreliability of network connection. Internet connections in India take a dip even at the significantly developed areas and cities. Moreover, in rural India, internet connection is still a luxury.
2. Security Issues – Even more than connectivity issues, what threatens

the growth of internet based payments is the concern of safety and security. People fear that their confidential data such as card information might get stolen and mis used by hackers.

3. Difficulty to use- For some sections of the society, using online payment methods is still an alien concept. A significant fraction of this apprehensiveness is that of technology illiteracy. People, specially order citizens and the rural population, are hesitant to try out these technologies.
4. Scaling problems- Replacing day-to-day transactions with money is easier said than done. For e.g. in a crowded bus, buying a ticket by paying a conductor through mobile wallet does not seem a viable option. It might be possible but it's a challenging task.

Mobile Wallets in India:

Some of the most widely used mobile wallets in India are as follows:

1. Paytm- As per www.dqindia.com, Paytm alone has a user base of more than 20 million. Nowadays, most of the local stores around us facilitate the usage of PaytmM money to make payments. Paytm as a simple user interface and provides a lot of usage options. Paytm is currently the largest mobile wallet app in India.
2. Mobikwik- MobiKwik is an Indian mobile wallet company that provides a digital walletand a mobile phone based payment system.
3. PhonePe- PhonePe is a Fin-Tech company that was founded in December 2015. It provides online payment system based on Unified Payments Interface (UPI), which is a new process in electronic funds transfer launched by National Payments Corporation of India (NPCI).
4. Oxygen Wallet- Oxygen wallet is powered by Oxigen Services (India) Pvt Ltd and is also integrated to NPCI that allows instant monetary transactions from the wallet to more than 50 banks using IMPS (Immediate Payment Service).
5. FreeCharge- Founded in 2010, FreeCharge has a consumer base of 20 million in India. This app also facilitates utility bill payments, prepaid and postpaid recharges among other service.
6. PayUmoney- PayU India is a key company of Naspers Group. The company is a \$25 billion internet and Media Corporation listed on

Johannesburg and London stock exchanges that offers an advanced payment gateway solutions to the online businesses using its award winning and progressive technology.

India is ready to witness a huge increase in the adoption of mobile wallets and digital payments in the coming years due to the exponential growth of internet and mobile penetration. According to Ratan Watal , principal advisor Niti Aayog and former finance secretary, digital payments grew 55% by volume and 24.2% by value in 2016-17 over the previous year. Data from the Reserve Bank of India (RBI) indicates that the rate of adoption of digital payments had accelerated following demonetization last year but has slowed in recent months of 2017. Total digital transactions in April 2017 of Rs109.58 trillion are 26.78 lower from Rs149.58 trillion in March2017 (Singh, 2017).

OBJECTIVES AND HYPOTHESIS

1. To study consumer perception towards mobile wallets.
2. To study the different factors that influences the adoption of mobile wallets.
3. To carefully analyze the problems that consumers face towards adoption of mobile wallets.
4. To study the popularity of different services offered by mobile wallets.

In pursuance of the above objectives, the following hypotheses are formulated for testing:

OBJECTIVE	HYPOTHESIS
1. Study consumer perception towards mobile wallets in relation to different demographics such as age, occupation, gender and education. wallets.	<p>H_0: There is no significant difference between different demographic groups in case of perception of mobile wallets.</p> <p>H_A: There is significant difference between different demographic groups in relation to their perception of mobile wallets.</p>

2. Study adoption of mobile wallets in relation to different demographics such as age, occupation, gender and education.	<p>H_0: There is no significant difference between different demographic groups in relation to adoption of mobile wallets.</p> <p>H_A: There is significant difference between different demographic groups in relation to adoption of mobile wallets.</p>
3. Study of factors relating to threats towards the adoption mobile wallets in relation to different demographics such as age, occupation, gender and education.	<p>H_0: There is no significant difference between different demographic groups in relation to threats against mobile wallets.</p> <p>H_A: There is significant difference between different demographic groups in threats against mobile wallets.</p>
4. To study the extent of impact of different factors on adoption/non adoption of mobile wallet	<p>H_0: There is no impact of various factors in adoption/non adoption of mobile wallets.</p> <p>H_A: There is no impact of various factors in adoption/non adoption of mobile wallets.</p>

RESEARCH METHODOLOGY

Sampling procedure& technique

Sampling Frame Sampling is a data collection method to choose a representative selection and generalizing the results to the whole population (Teddle & Yu, 2007), (Trochim, 2006). In this study, Primary data was collected by the medium of a survey that was conducted online with the help of google forms. Convenience sampling was done by circulating the survey on social media with family, friends and acquaintances. Convenience sampling is adopted to involve accessible participants that desire to contribute in the study (Stufflebeam & Zhang, 2017). The survey consisted of 15 questions relating to demographic details, preference details and perception question relating to digital wallets. The survey was filled by 299 respondents belonging to ranging backgrounds, gender and age.

The sample for this research was taken from the population of Delhi as the study is conducted with special reference to Delhi. The census population of Delhi according to the census conducted by the Government of India in 2012 was 1.9 Cr. performing the study with 95% of confidence and 5% margin of error.

Sample Size

Since the study was conducted at 95% confidence and 5% margin of error the sample size is 380 respondent, however only 299 responses were deemed fit for the analysis.

Statistical Tools Employed

IBM SPSS 22 was used to undertake all statistical analysis, such as reliability, normality testing, regression analysis, and ANOVA. Cronbach's Alpha test was used to find the reliability of the data. Independent Sample T test and ANOVA was carried out to find the variance in the responses and to test the hypothesis.

The independent variables taken were demographic variables such as age, gender, education and occupation. Dependent variables were the composite variables leading to adoption and threat to the mobile wallets. Question relating to preference relating to different modes of cashless payments and the role of mobile wallet leading towards a cashless future were also added in the questionnaire.

Period of the study: The data were collected for the month of March 2018.

EMPIRICAL STUDY

Profile of Respondents

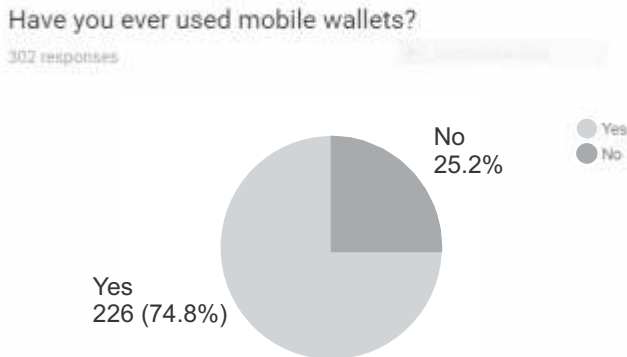
The profile of the respondents is summarized in Table 1. 64.5 percent of the respondents are male and 35.5 are female. A significant number of respondents belong to the age group of 16-25, amounting to 62.5 percent of the total. 53.5 percent of the respondents belong to the undergraduate level whereas 31.1 percent belong to post graduate. With respect to occupation, 58.5 percent of the respondents are students whereas 14.4 percent are professionals and 13.4 are private sector employees. 178 of the respondents belong to Less than 5 Lakh income group whereas 27.1 percent accounts to 15-25 lakh income bracket.

Table 1: Respondents Profile with respect to demographic variables.

Variable	Category	Frequency	Percentage
Gender	Male	193	64.5
	Female	106	35.5
Age Group	16-25	187	62.5
	26-35	38	12.7
	36-45	20	6.7
	46-55	29	9.7
	56 and above	25	8.4
Education	High School Graduate	43	14.4
	Undergraduate	160	53.5
	Post Graduate	93	31.1
	Doctoral	3	1.0
Occupation	Student	175	58.5
	Business	20	6.7
	Professional	43	14.4
	Government Employee	21	7.0
	Private Sector Employee	40	13.4
Annual income	Less than 5 Lakh	178	59.5
	5-15 Lakh	81	27.1
	16-25 Lakh	22	7.4
	More than 25 Lakh	18	6.0

Figure 1 shows that 74.8 percent of the respondents have used mobile wallets.

Figure 1: Usage of Mobile Wallets



Moreover, figure 2 shows the frequency of usage of different mobile wallets such as Paytm, Freecharge, Mobikwik among other. It shows that 99 percent of the respondents have used Paytm more than once, making it the most frequently used mobile wallets in India followed by PhonePe (31.9 %), Freecharge (29.6%) and Mobikwik (29.2 %).

Figure 2: Frequency of usage of different Mobile Wallets

What all wallets have you used more than once?

226 responses

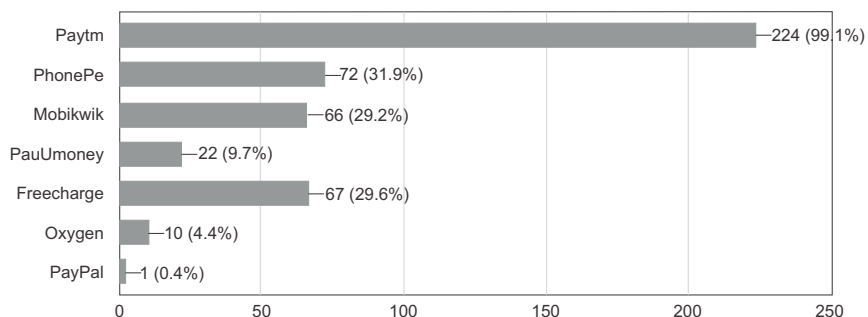
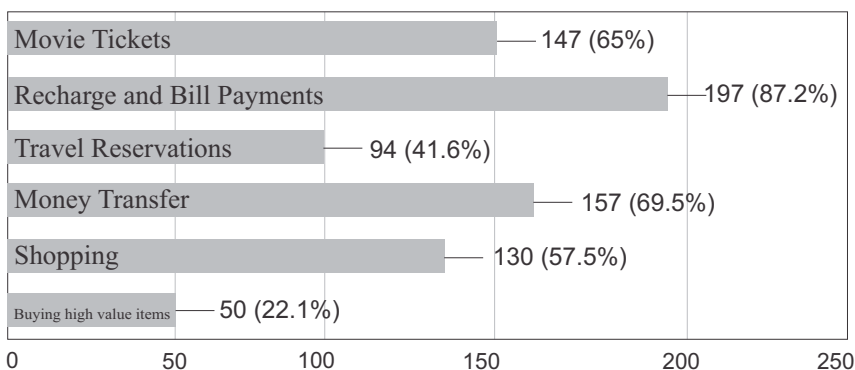


Figure 3 shows the different usage of mobile wallets and their frequencies. 87.2 percent of the respondents use mobile wallets to Recharge and make bill payments whereas 69.5 percent of them use it for money transfer and 65% of them use mobile wallets to buy movie tickets.

Figure 3: Different Usages of Mobile Wallets

Please choose accordingly the services that you access through mobile wallets
226 response



Factor Analysis

Factor analysis is a statistical method used to describe variability among observed, correlated variables in terms of a potentially lower number of unobserved variables called factors (Stufflebeam & Zhang, 2017).

Table 2: KMO and Bartlett's Test

Kaiser - Meyer - Olkin Measure of Sampling Adequacy.	.913
Bartlett's Test of Sphericity	Approx. Chi - Square
	1601.987
	df
	55
	Sig.
	.000

Table 3: Rotated Component Matrix^a

	Component	
	1	2
1. Easy to use	.892	
2. Easily accessible	.884	
3. Instant Payments	.841	
4. Safe and Secure	.837	
5. Reputed Company	.785	
6. Offers and Cashback	.654	.403
7. One stop shop	.568	
8. Lack of Options		.809
9. Difficult to use		.796
10. Security		.721
11. Internet Connectivity		.657

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.^a

1. The Kaiser-Meyer-Olkin (KMO) Measure of Sampling measures how suited our data is for Factor analysis. The test measures sampling adequacy for each variable in the model (Stephanie, Kaiser-Meyer-Olkin (KMO) Test for Sampling Adequacy , 2016).KMO values between 0.8 and 1 indicate that the sampling is adequate. In this study, the KMO value is 0.913 which indicates that our data is adequate for running factor analysis. (Table 2).
2. Rotated Component Matrix- The idea of rotation is to reduce the number of factors on which the variables have high loadings. Rotation makes the interpretation of the analysis easier (Chetty & Datt, 2015). From table 3, we can see that variables Instant payments, easy to use, reputed company, one stop shop, offers and cash back, safe and secure and easily accessible are loaded on factor 1 (Further constructed as Adoption) and variables Security, internet connectivity, lack of options and difficulty to use are loaded on Factor 2 (Constructed as Threats hereafter).

RELIABILITY ANALYSIS

The Cronbach's Alpha scores were all greater than the generally accepted score of 0.7. In this case, the score was 0.920 for the construct Adoption of mobile wallets and 0.797 for the construct threats to Mobile Wallets. The reliability test indicates that the scale can be used for further analysis.

Table 4: ANOVA Summary

S. No.	Demographic Parameter	Construct	Hypothesis	Mean Square	Level of Significance	Result
1.	Age	Adoption	<p>H₀: There is no significant difference between the factors leading to adoption of mobile wallet in respect to age.</p> <p>H_A: There is significant difference between the factors leading to adoption of mobile wallet in respect to age</p>	<p>Between Groups: 143.990</p> <p>Within Group: 39.349</p>	.007	H ₀ is rejected
2.	Age	Threat	<p>H₀: There is no significant difference between the factors leading towards threat for adoption of mobile wallet in respect to age.</p> <p>H_A: There is significant difference between the factors leading towards threat for adoption of mobile wallet in respect to age.</p>	<p>Between Groups: 46.619</p> <p>Within Group: 15.342</p>	.018	H ₀ is rejected
3.	Occupation	Adoption	H ₀ : There is no significant difference between the factors leading to adoption of mobile wallet in respect to occupation.	Between Groups: 124.724	.015	H ₀ is rejected

			H_A : There is significant difference between the factors leading to adoption of mobile wallet in respect to occupation.	Within Group: 39.698		
4.	Occupation	Preference of Mobile wallet over other modes of cashless payment	H_0 : There is no significant difference between their preference of mobile wallets over other modes of cashless payment in respect to occupation. H_A : There is no significant difference between their preference of mobile wallets over other modes of cashless payment in respect to occupation.	Between Groups: .757 Within Group: .172	.002	H_0 is rejected
5.	Income Level	Preference of Mobile wallet over other modes of cashless payment	H_0 : There is no significant difference between their preference of mobile wallets over other modes of cashless payment in respect to income level. H_A : There is no significant difference between their preference of mobile wallets over other modes of cashless payment in respect to income level.	Between Groups: 1.286 Within Group: .168	.002	H_0 is rejected

Since the significance value for the demographic parameter of age in relation to both adoption and threats towards mobile wallet and for the demographic of occupation towards adoption is less than .050, post hoc analysis is performed to evaluate specific groups within the demographics in order to identify in which particular group the significant difference lies.

The post hoc test conducted is Tukey's-b. The purpose of Tukey's test is to figure out which groups in your sample differ. It uses the "Honest

Significant Difference,” a number that represents the distance between groups, to compare every mean with every other mean. (Stephanie, Post-Hoc Definition and Types of Post Hoc Tests, 2015)

Table 5: Multiple Comparisons for Age

Tukey HSD

Dependent Variable	(I) Age	(J) Age	Mean Difference (I-J)	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Adoption	16-25	26-35	.68113	.982	-2.7532	4.1154
		36-45	5.77600*	.014	.7991	10.7529
		46-55	2.93947	.384	-1.5856	7.4646
		56 and above	3.93947	.416	-2.3120	10.1909
	36-45	16-25	-5.77600*	.014	-10.7529	-.7991
		26-35	-5.09487	.107	-10.8237	.6340
		46-55	-2.83654	.745	-9.2787	3.6057
		56 and above	-1.83654	.966	-9.5894	5.9163

When specific groups are analysed in age for adoption of mobile wallets it is found that there is a significant difference in only two subgroups i.e. 16-25 and 36-45. The significance is .014 which is less than .050 and hence H_0 is rejected. All other combinations show no significant difference among groups.

When specific groups are analysed in age for threats towards adoption of mobile wallets it is found that there is no significant difference in any combination of the subgroups. Hence, H_0 is accepted.

Table 6: Multiple Comparisons for occupation

Tukey HSD

Dependent Variable	(J)		Mean Difference (I-J)	Sig.	95% Confidence Interval	
	(I) Occupation	Occupation			Lower Bound	Upper Bound
Adoption	Student	Business	7.26623 [*]	.026	.5691	13.9633
		Professional	1.23052	.877	-2.3297	4.7908
		Government Employee	3.72078	.325	-1.6876	9.1292
		Private Sector Employee	1.42008	.825	-2.2542	5.0944
	Business	Student	-7.26623 [*]	.026	-13.9633	-.5691
		Professional	-6.03571	.160	-13.3587	1.2873
		Government Employee	-3.54545	.772	-11.9241	4.8332
		Private Sector Employee	-5.84615	.192	-13.2253	1.5330

* The mean difference is significant at the 0.05 level.

When specific groups are analysed in occupation for adoption of mobile wallets it is found that there is a significant difference in only two subgroups i.e. Students and Businessmen. The significance is .026 which is less than .050 and hence H_0 is rejected. All other combinations show no significant difference among groups.

Table 7: Multiple Comparisons for occupation

Dependent Variable: Would you say that you prefer mobile wallets to other mode of cashless payments?

Tukey HSD

(I) Occupation	(J) Occupation	Mean Difference (I-J)	Sig.	95% Confidence Interval	
				Lower Bound	Upper Bound
Student	Business	-.104	.967	-.55	.34
	Professional	-.282 [*]	.009	-.52	-.05
	Government Employee	-.364 [*]	.043	-.72	-.01
	Private Sector Employee	-.010	1.000	-.25	.23
Professional	Student	.282 [*]	.009	.05	.52
	Business	.179	.847	-.30	.66
	Government Employee	-.081	.982	-.49	.33
	Private Sector Employee	.272	.117	-.04	.58
Government Employee	Student	.364 [*]	.043	.01	.72
	Business	.260	.695	.29	.81
	Professional	.081	.982	-.33	.49
	Private Sector Employee	.353	.129	-.06	.76

*The mean difference is significant at the 0.05 level.

When specific groups are analysed in occupation for preference of mobile wallets over other modes of cashless payment it is found that there is a significant difference in the case of Students and Businessmen and Students and Government Employees. The significance is .009 in case of professional and .043 in case of government employees which is less than .050 and hence H_0 is rejected. All other combinations show no significant difference among groups.

Table 8: Multiple Comparisons for Income

Dependent Variable: Would you say that you prefer mobile wallets to other mode of cashless payments?

Tukey HSD

(I) Annual Income	(J) Annual Income	Mean Difference (I - J)	Sig.	95% Confidence Interval	
				Lower Bound	Upper Bound
Less than 5 Lakhs	5-15 Lakhs	-.048	.880	-.21	.12
	16-25 Lakhs	-.358*	.015	-.66	-.05
	More than 25 Lakhs	-.486*	.001	-.80	-.17
5-15 Lakhs	Less than 5 Lakhs	.048	.880	-.12	.21
	16-25 Lakhs	-.310	.068	-.64	.02
	More than 25 Lakhs	-.439*	.005	-.78	-.10
16-25 Lakhs	Less than 5 Lakhs	.358*	.015	.05	.66
	5-15 Lakhs	.310	.068	-.02	.64
	More than 25 Lakhs	-.128	.863	-.55	.30
More than 25 Lakhs	Less than 5 Lakhs	.486*	.001	.17	.80
	5-15 Lakhs	.439*	.005	.10	.78
	16-25 Lakhs	.28	.863	-.30	.55

*The mean difference is significant at the 0.05 level.

When specific groups are analysed in income for preference of mobile wallets over other modes of cashless payment it is found that there is a significant difference in the cases of Less than 5 lakhs and 16-25 lakhs, less than 5 lakhs and more than 25 lakhs and 5-15 lakhs and more than 25 lakhs. The significance is .015, .001 and .005 respectively which is less than .050 and hence H_0 is rejected. All other combinations show no significant difference among groups.

REGRESSION

In our study, using linear regression, we aim to find out:

1. Whether Reputation of a mobile wallet company (dependent variable)

can be predicted based on factors contributing towards adoption of mobile wallets, namely, ease in accessibility, safety & security and Ease of use (independent variable) or how much do adoption factors such as ease in accessibility, safety & security and Ease of use explain the reputation of a mobile wallet company.

2. Whether Reputation of a mobile wallet company (dependent variable) can be predicted based on factors contributing towards non adoption of mobile wallets, namely, lack of options and difficulty to use (independent variable) or how much do non adoption factors such as lack of options and difficulty explain the reputation of a mobile wallet company.

Table 9: Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	.170	.222		.768	.443
[Easy to use]	.316	.097	.284	3.272	.001
[Safe and Secure]	.371	.087	.348	4.262	.000
[Easily accesible]	.187	.101	.163	1.852	.065

a. Dependent Variable: How much do the following factors contribute towards the adoption of a mobile wallet? [Reputed Company]

Table 10: Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	2.573	.201		12.779	.000
[Difficult to use]	.200	.064	.238	3.100	.002
[Lack of Options]	.183	.074	.188	2.453	.015

a. Dependent Variable: How much do the following factors contribute towards the adoption of a mobile wallet? [Reputed Company]

For our first objective, we find that R^2 value is 0.55 or 55%. R^2 value indicates how much of a total variable in the dependent variable can be explained by the independent variables. In this case, 55% can be explained, which is a significant amount. The regression equation for the same is :

$$Y(\text{Reputed company}) = 0.170 + 0.316X_1(\text{Easy to use}) + 0.371X_2(\text{Safe and secure}) + 0.187X_3(\text{Easily accessible})$$

For the second objective, the R² value is 14% which indicated that 14% of Reputation of a company can be explained by non- adoption factors such as lack of options and difficulty of usage. The regression equation for the same is :

$$Y(\text{Reputed company}) = 2.573 + 0.200X_1(\text{Difficulty of use}) + 0.183X_2(\text{Lack of options})$$

CONCLUSION AND FINDINGS

1. Mobile wallets was the most popular mode of payment used out of the sample in comparison to other modes of cashless payment with 69.9%. The second most popular mode was NEFT/RTGS with 59.6%. 74.8% respondents used mobile wallets.
2. The most popular mobile wallet was Paytm with 99.1% followed by PhonePe with 31% indicating market leadership in the mobile wallet industry.
3. 46.5% people use mobile wallets frequently for various purposes while only 14.2% used the wallet daily.
4. The most popular service accessed was Recharge (87.2%) followed by money transfer (69.5%). The least popular service was shopping for high value items (22%) indicating that mobile wallets are preferred for more routine services and also that high value transactions are not that popular which further refer to security concern.
5. 89.8% of the sample believe that mobile wallets are a link towards a cashless India.
6. ANOVA indicates a significant difference between age groups 16-25 and 36-45 in adoption of mobile wallets indicating that the middle aged group are not that interested or are hesitant in adopting to mobile wallets as a mode of cashless payments whereas the youth is. This is concluded as 70% of the respondents belonging to 16-25 prefer mobile wallet and 85.5% was used mobile wallets are compared to 40% in 36-45 who prefer mobile wallet and only 65% have used mobile wallet.

7. A significant difference is also present in between students and businessmen in adoption of wallets indicating that the businessmen are not eagerly interested in adopting to mobile wallets whereas the students are. 87.9% of the students uses mobile wallets as compared to 35% of the businessmen.
8. A significant difference also occurs between the students and people in service in regards to preference of mobile wallets over other modes of cashless payment. This indicates that the respondents in service might prefer other modes for cashless payments rather than mobile wallets.
9. There lies a significant difference in preference of mobile wallets to other modes of cashless payment among the high income group (16-25 lakhs and 25lakhs and above) and low income group (less than 5 lakhs and 5-15 lakhs). 61% of the lower income group prefer mobile wallets to other modes as compared to only 25% of the higher income group.
10. Reputation of a Mobile wallet company can be explained by factors such as easy accessibility, safety and security and easy to use up to an extent of 55%.
11. Reputation of a Mobile wallet company is affected by non-adoption factors such as Lack of Options and Difficult to use. They affect up to an extent of 14%.

RECOMMENDATIONS

Recommendation to Government:

1. Cash as the dominant mode of payment has proven to be a costly proposal for the Government. The country needs to move away from cash-based towards a cashless (electronic) payment system. This will help reduce currency management cost, check tax avoidance, track transactions, fraud etc., enhance financial inclusion and engage the parallel cashless economy with a priority. The main problem in the adoption of mobile wallet or any other cash less payment mode is the issue of security. The risks of a breach leading to financial data loss is a very important deciding factor for adoption of mobile wallets. Ensuring the security is of the most importance as even a single events of breach can lead to large financial and reputational loss for any company. Maintaining the privacy of a consumer is also an important

challenge, as an increased amount of sensitive data is collected and stored. Hence steps are required and necessary to increase financial security in order to boost the economy towards cashless.

2. Another important concern is the change in perception of high income groups and salaried employees to move towards the cashless payment techniques. Cash has been the preferred transaction method for Indians since the beginning of time. Even though the adoption of payments by mobile wallets has been rapidly increasing, concerns regarding security and privacy are still present among users. Industry players will need to invest significant effort to overcome this barrier, not only through marketing campaigns, but also through actual continuous product improvement. (7 key challenges India's mobile wallet industry needs to overcome, 2017)
3. The government is backing the use and adoption of cashless services through multiple schemes and campaigns. But the strict reserve bank norms such as KYC, high net worth requirement and interoperability among mobile wallets pose serious challenges in causing a shift from cash to cashless. There is resistance among consumer due to increased formality that needs to be done separately for each application and company. One such way to overcome this can be setting up of a centralized way to verify a consumer and his credentials and hence reducing the repetition of the formalities every time. Aadhaar centers or Banks can be used for such services and a unique I Pin or code can be generated that lets the consumer to verify his/her credentials with the companies. It will increase the ease of using cashless services among the population and also keeping track of the number of services as well. Something of this sort can be applied through mandatory Aadhaar Number and hence these services can be added to the benefit of Aadhaar card. (Surge in use of mobile wallets, 2017)

Recommendation to Companies:

4. Competitors in the mobile wallet industry have begun moving from their core service and delivering auxiliary and supporting services. For example, Paytm offers a varied range of m-commerce services. In addition to m-commerce, other e-wallet players like MobiKwik have experimented into hyper local transactions, cash pick-up and microcredit facilities. (Kumar, 2017) Adapting business model and

interface to meet emerging consumer needs, and to differentiate such products from other competitors and services, including the UPI, will be an ongoing challenge for the market and its players. (Ballal, 2017)

5. All applications are not made for all operating systems on mobiles. Many products currently on the market are only compatible with either Android or iOS. Consumers are looking for options that make transactions the most convenient and accessible, and such issues can hamper that experience. Ensuring compatibility across all the popular operating systems will play an important role for these companies. (Ballal, 2017)
6. In order to maintain reputation and market leadership the companies have to keep innovating in terms of services and take care of the services and the ease of accessing the mobile wallet. Other concern include the ways in which high income group and salaried employees can be made habitual to using mobile wallets for a host of activities in daily life routine.
7. Mobile wallet industry is likely to grow 150% in the next five years to an estimated \$4.4 billion by 2022 as presented by the reports of Cap Gemini World Payment Report 2017. But a bigger threat to the current situation is government backed UPI payment gateway will overshadow E-Wallets because of the favorable easy inter-bank transactions. Current market leaders have to adapt and adopt accordingly to be able to handle such exterior business environment changes. (Peermohamed, 2017)
8. Big companies such as Amazon, Alibaba, Google and Softbank are entering the industry owing to such profitable and exciting growth opportunities. A rise in the use of smartphones, net connectivity and increased usage and adoption of mobile wallets for a host of regular daily services have led to a drastic increase in the demand and use of mobile wallets. It is speculated that small companies will have to exit or will be acquired by the large fishes about to enter the market as they'll be looking for penetration of the market and hence domination in the standings. Companies should be ready with an adjusted business plan to take advantage of the situation or other measures should be employed in relation with individual company goals. The small companies can focus on students or less income groups solely as they are eager to adopt and also prefer mobile wallets. The companies

should look after their interface and security as they impact the reputation to a large extent. (Peermohamed, 2017)

9. Paytm currently is the market leader. With the entry of big multinational corporation such as Amazon with Amazon Pay , Paytm even though backed by Alibaba and Softbank has to penetrate the unexplored i.e. the groups of people hesitant in adopting the mobile wallets. According to the findings businessmen are not keen in adopting the wallets and hence special services with monetary offers such as payment accepting, tax filling and some aspects of bill payment for transportation and other auxiliaries linking to their current can be made so as to provide increased utility and incentive for the businessmen to use and adopt such wallets for the first time. A movement for moving away from cash payment can also be considered to accelerate the adoption process. In order to increase the preference in salaried employees the ease of doing transaction and linkage to salary account is a must so that they do not need to carry two different mobile application one being for checking information of the account and the other being for availing services. Tie-ups can be made so that only a particular company payment gateway is used for making payment of a particular service to maintain domination. For ex., Payment for BSES bills can only be made from Paytm payment portal. To convert the high income group increase in elite services and increase in security of data is of utmost importance.

Limitations of the study and scope for further research

The main limitations of the study are as follows:

1. The study suffers from the limitation of sampling, mainly the difficulty of getting the representative sample. The present study is limited to only 299 which may not be representative of the actual population.
2. A comparative study on different cashless payments option can be conducted with more in-depth research on different aspects of cashless payments.
3. The study being part of behavioral research and primary data was collected through Questionnaire as such suffers from the subjectivity biases of the respondents.
4. The time constraint has been a major limitation of this study.

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