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CHAPTER 1 : INTRODUCTION

Mobile payments or mobile wallet bring together payment system and mobile devices and services to enable users to initiate, authorize and complete and financial transaction over mobile network or wireless communication technology (Chandra, 2010; Lu, 2011). The ubiquitous nature of mobile, their ease of being handled coupled with their storage facility and transmission capabilities appear to make it highly attractive for carrying out all types of wireless payment transaction and for storing everything that would normally be stored in a physical wallet (Mallat, 2007). This also provides an opportunity for mobile network operators an extra avenue for revenue generation and earnings (Chen, 2008). However, the impact of new services on customer satisfaction is the vital issue in the financial service providers embracing the new platform.

Mobile Wallet is an e-wallet service can be used to perform various banking transactions and to items which are generally stored in a physical wallet like money, coupons, etc. To avail the service signing up is required, after which an account is created, into which money can be deposited. It can also be used to transfer money either online, from any bank accounts, or by depositing money at any Mobile Wallet service provider agent. Various other online transactions like paying of utility bills, booking movie tickets, paying restaurant bills, transferring money from one mobile account to another account etc can also be performed.

The following fig summarises the introduction to Mobile Wallet

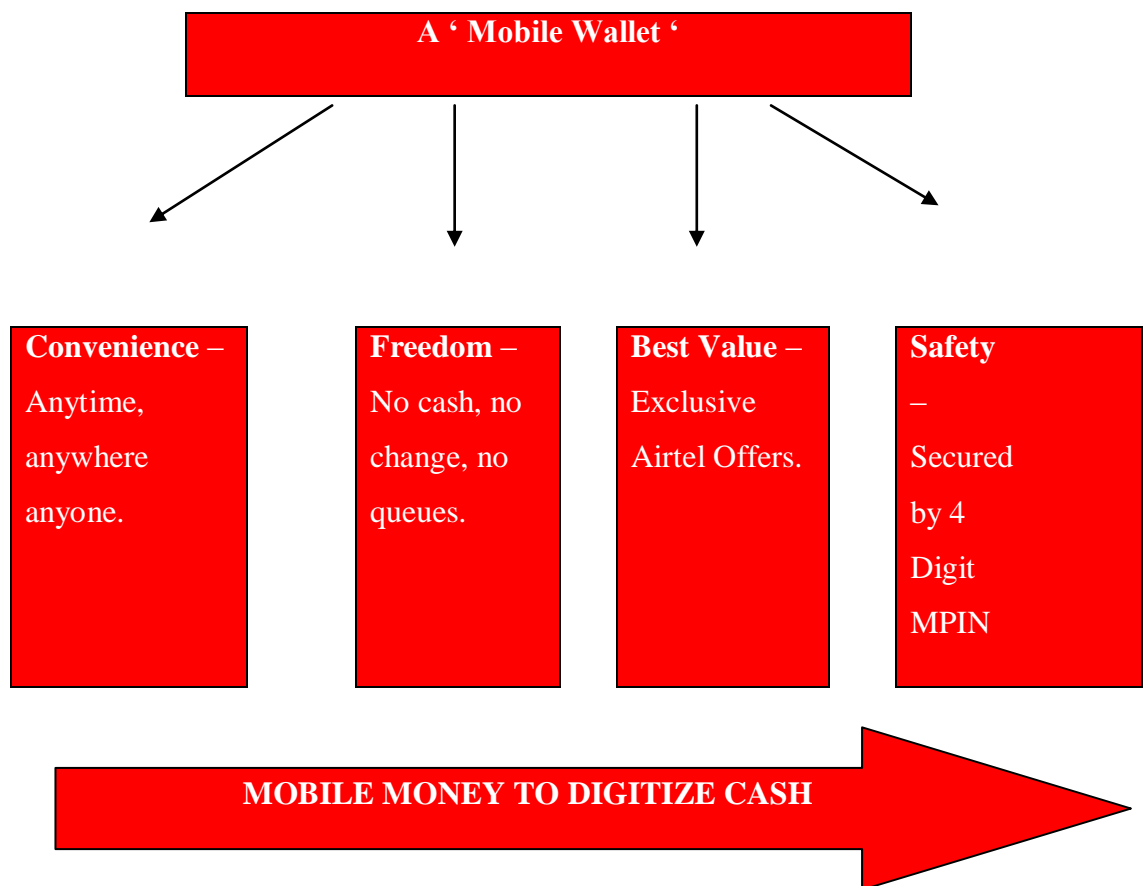


Fig 1.1 : Mobile Wallet.

The service is offered by the mobile telecom operators in partnership with financial organizations which have a license issued by the RBI for conducting financial transactions or the telecom operators can apply for licenses on their own with the RBI for offering the financial transaction facility. The Vodafone operator in India operates in partnership with ICICI bank to offer mobile wallet service and Idea Cellular has launched the service Idea Money after being issued a license from RBI (PTI, 2014)

Mobile money transfers are similar to traditional money transfers in that they involve the collection of cash by an authorized agent and transaction processing over a secure payment network to another agent location for receiving party pick-up (usually in cash). In addition to individual P2P transfers, Airtel Money has grown to include person-to-businesses ("P2B") transfers, bulk business-to-person ("B2P") transfers..

A tremendous growth in mobile phone users and the computing power of mobile devices coupled with convergence of cellular and internet protocol(IP) based networks has been observed over the recent years. With the advent of the mobile technology, many mobile commerce(m-commerce) applications like, mobile gaming, mobile advertising, mobile distance education, mobile payment(m-payment) which offers the freedom of payment anytime and anywhere is perhaps the most critical development (Coursaris, 2002; Dahlberg, 2008; Varshney, 2002).However, the level of penetration and adoption of mobile payments services has been very low despite the availability of enabling technologies and its promising possibilities, compared to other recent forms of cashless, non-contact payment technologies such as credit card, e-payments system (Dahlberg).Moreover, there have not been many success stories around the world about the successful adoption of the mobile payment services except in japan and south korea (Bradford, 2007)

In India, the internet subscriber base is expected to touch 150 million by the end of this calendar. Accordingly, the mobile payments(m-payments) industry is expected to grow to 1.15 billion dollars in 2016 after growing at an compound growth rate(CAGR) of 68% (Kanth, 2012)

Many banks, mobile network operators, vendors and independent companies are already implementing this technology and undertaking trial runs across the country. Mobile payments is increasingly being adopted by Indian consumers. Couple this with over 900 million mobile subscribers, 240 million bank account holders (of which 42% own a mobile phone) and a booming retail market, the adoption of NFC technology is expected to propel further (Kanth, 2012).

Despite the promise of mobile payment services, and the efforts taken by the service operators in India, the technology has failed to take off as yet (Puri, 2013). The mobile payment technology has been successful in a few countries like Japan and South Korea. However, the technology can not be replicated successfully in India just by importing the technology as it is, due to the varying market constraints like economy, technology and social aspects (Ondrus, 2009) . Therefore, this study is a step in the direction of unraveling the factors which would increase the adoption of Mobile Wallet services in India.

CHAPTER 2 : LITERATURE REVIEW

Reviewing the relevant literature, there seems to be a fair amount of study carried out in developed countries to understand the factors affecting the consumer adoption of mobile payment services. Most of these studies have been based on the behavioral science and individual psychology.

To study the adoption, Venkatesh, et al. explored the various factors affecting the adoption of new information technology innovations, by consumers. Together, they proposed a model known as Unified Theory of Acceptance and Use of Technology (UTAUT) and they concluded that individual reactions to using information technology directly affect intentions to use information technology and which in turn signifies the actual use of information technology.

A study was conducted by Lee to study the influence of perceptions of interactivity on consumer trust and mobile transactions. The study concluded that consumer transaction was indeed influenced by the trust factor.

Lin and Wang tried to investigate the factors responsible for customer loyalty in mobile commerce. Customer satisfaction and customer loyalty depend significantly on trust and perceived value. Habit was concluded to influence customer loyalty and customer loyalty in turn was dependent of customer satisfaction. It was also found out that customer loyalty was directly affected by perceived value, trust, habit, and customer satisfaction. Out of all the factors, mobile commerce was a strong dependent factor on customer loyalty. Pavlou, et al. studied the drivers of consumers to participate in mobile commerce by examining three interrelated behaviors including getting information, giving information, and purchasing with mobile devices. Mobile purchasing involves a

satisfying exchange relationship between products/ services offered and the mobile device that uses WAP (Wireless Application Protocol).

A study was conducted by Kapoor, Divedhi and Williams(2014) to compare the predictive capacity of different sets of competing attributes on the diffusion of Interbank Mobile Payment in India (Kapoor, 2014); relative advantage, compatibility, complexity and trialability explained 62% of variance in behavioural intention. Schierz et al. extended Technology acceptance Model(TAM) to explore acceptance of MP's in Germany; explaining 84% of variance in behavioral intention which was highest to date. Studies.

Mallat (2007) suggests that consumer adoption behaviour in relation to MP is a key issue. The majority of MP adoption studies have referred to the technology in a general sense without specific consideration of different payment scenarios or technologies. Very recently, some studies have been carried out on adoption of specific mobile payment system, such as Zong mobile payment in Spain, Interbank mobile payment in India and Ali Pay in China

Studies of the impact of mobile payment system in the developing are scarce as the system is so new.

CHAPTER 3: METHODOLOGY

‘Research’ means a scientific and systematic search for pertinent information on a specific topic. Research is a careful investigation or inquiry especially through search for new facts in any branch of knowledge. Research comprises defining and redefining problems, formulating hypothesis or suggested solutions; collecting, organizing and evaluating data; making deductions and reaching conclusions; and at last carefully testing the conclusions to determine whether they fit the formulating hypothesis.

‘Methodology’ is defined as the study of methods by which we gain knowledge; it deals with cognitive processes imposed on research by the problems arising from the nature of its subject matter.

3.1. Need for the Study

This study was carried out acknowledging the growing importance being attached to providing basic services using mobile and digital platform. The mobile payment though has been introduced in India in the year 2007, but has is yet to catch-up in terms of usage among the general public. This research will help to reveal the reasons which would help in making the mobile wallets services more popular and help in the repackaging the mobile services to make it more attractive for usage. The study also contribute to the

body of literature by expanding the body of knowledge of mobile wallet services and the factors impacting its adoption in India. The findings of the body can be used by the mobile wallet service providers to repackage and re-launch their services to better serve their customers and earn higher returns.

3.2. Scope of the study

The scope of the study involved revealing the factors upon which the customers base their decision for adoption of mobile wallet services in their day to day life

3.3 Key Assumptions

The researcher assumed that due to the anonymity and confidentiality of the data collected, and taking into consideration that all the respondents were volunteers, all respondents were truthful in sharing their personal interpretations, experience and knowledge in regard to the usefulness and intention to use of mobile wallet services.

3.4 Data collection

Data refers to information or facts. It includes numerical figures, non-numerical figures, descriptive facts, and qualitative and quantitative information. The task of data collection begins after a research problem has been defined and research plan has been decided. The nature of the data is Primary data.

Primary Data

The primary data are those that are collected through questionnaire and direct personal interview. The questionnaire was framed in such a manner to obtain correct information, graded suitably for the study. The questionnaire were administered and the responses collected through the online mode .i.e online survey forms delivered via e-mail.

3.5. Sample Design

Convenience sampling has been used as the respondents were administered questionnaire online from a list of personal contacts. Moreover, respondents had to volunteer to answer the survey questions, which was possible through convenience sampling.

3.6 Tools of Data Collection

The responses are sought using a semi-structured questionnaire, with questions whose validity and reliability had been established. A total of 35 questions, in a random order were presented in the questionnaire. Demographic questions seeking information about Age, gender, income, education level were also included in the questionnaire. The questionnaire was administered using Google form for recording the survey responses

Questionnaire

A questionnaire is a research instrument consisting of a series of questions and other prompts for the purpose of gathering information from respondents. Although they are often designed for statistical analysis of the responses, this is not always the case. A good questionnaire should not be too lengthy. Simple English should be used and the question shouldn't be difficult to answer. A good questionnaire requires sensible language, editing, assessment, and redrafting.

Questionnaire Design Process

1. State the information required- This will depend upon the nature of the problem, the purpose of the study and hypothesis framed. The target audience must be concentrated on.
2. State the kind of interviewing technique- interviewing method can be telephone, mails, personal interview or electronic interview. Telephonic interview can be computer assisted. Personal interview can be conducted at respondent's place or at mall or shopping place.
3. Decide the matter/content of individual questions.
4. Overcome the respondents' inability and unwillingness to answer.

5. Decide on the structure of the question.
6. Properly arrange the questions- To determine the order of the question, take decisions on aspects like opening questions, type of information, effect on subsequent questions, logical sequence, etc.
7. Recognize the form and layout of the questionnaire
8. Reproduce the questionnaire
9. Pre-test the questionnaire
10. Finalize the questionnaire.

Table 1 Constructs and measures

Construct	Survey measures	Sources
Performance expectancy	I would find mobile wallet useful in my daily life I would accomplish things more quickly by using mobile wallet Use of mobile wallet would increase my productivity	(Venkatesh, 2012)
Effort expectancy	It would be easy for me to learn the use of mobile wallet My interaction with mobile wallet would be clear and understandable I find the use of mobile wallet easy It would be easy for me to become skilful at using mobile wallet	(Venkatesh, 2012)
Social influence	People who are important to me think that i should use mobile wallet People who influence my behaviour think that i should use mobile wallet People whose opinions I value prefer that I use mobile wallet	(Venkatesh, 2012)
Facilitating conditions	I have the resources necessary to use mobile wallet I have knowledge necessary to use mobile wallet Mobile wallet is compatible with other technologies that I use I get help whenever I face difficulty in using	(Venkatesh, 2012)

	mobile wallet	
Price value	Mobile wallet charges are reasonable Mobile wallet offers good value for money At the current service cost, mobile wallet provides a good value for money	(Venkatesh, 2012)
Perceived risk	I feel totally unsafe while providing pure personal data in mobile wallet service process I am worried that others may also access my data when I use mobile wallet I think there are financial risk with my account when I use mobile wallet service I think that overall degree of risk while using mobile wallet is high	(Srivastava, 2010)
Perceived trust	I believe that mobile wallet service providers keep their promise I think mobile wallet service providers keep customer interest in mind I think that mobile wallet service companies are trustworthy I think that mobile wallet service providers will do everything to secure the transaction of users	(Shen, 2010) (Featherman, 2003) (Lu, 2011)
Behavioral intention	I intend to use mobile wallet in near future I will try to use mobile wallet in my daily life I will increase the frequency to use mobile commerce	(Venkatesh, 2012)
Regulatory Support	I think there is adequate provision in the law to safeguard customer interest in mobile wallet transaction I think that I can easily access appropriate law in case of any dispute arises during mobile wallet use I think that regulatory body is competent to fix accountability in case of a dispute during mobile wallet use	

Customer Incentive	Cash rewards attracts me to use mobile wallet Promise of gift vouchers attracts me to use mobile wallet Customer contests attracts me to use mobile wallet Loyalty benefits attracts me to use mobile wallet	
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CHAPTER 4: DATA ANALYSIS

The data after collection has to be simplified and analyzed in accordance with the background defined for the purpose. This is a vital step for a study and for assuring that we have the relevant data. Processing involves editing, coding, classification and tabulation of collected data so that it is accepted for analysis. The term analysis refers to a systematic process of examining and evaluating data or information, by breaking it into its contributing parts to discover their interrelationships. Thus in the process of analysis, relationships of differences supporting or conflicting with original or new hypothesis should be subjected to statistical tests of significance to determine with what validity data can be said to indicate any conclusions (Gatignon, 2003) Analysis of data in a general way involves a number of closely related operations and functions that are performed with the purpose of organizing and summarizing the collected data in such a manner that answer the research questions.

4.1. Introduction to the case

According to a study conducted by global software service provider SAP, 9 out of 10 people are demanding more mobile interactions with banks, telcos, retailers, utilities and other business interaction with business and it expected to grow three-fold by 2019 (Bagchi, 2014). However, the industry has failed to grow at the expected level so far in

India and Mobile wallet services continue to be in an infant stage. So in-order to make the mobile wallet services achieve their desired potential rate of growth its essential to know the factors impacting the adoption of mobile payment services in India. It is essential to know, the actual reasons due to which the mobile services in India are not ringing a bell with users of India and what will be the corrective steps the services providers in India will have to undertake to the service more attractive. This study will put more light on the marketing repackaging of the services required to increase the user base of the service.

4.2. Data Analysis and Interpretation

Once the surveys are conducted and the resulting data is gathered, it is necessary that the gathered data is subjected to appropriate data analysis techniques and the information is analyzed correctly so that the hypothesis are validated or discarded. It is the responsibility of the researcher to choose an appropriate method for data analysis, though the same can be done in several ways.

Before the analysis of the data of the respondents, it is necessary to have a background of the respondents who participated in the survey. A total of 153 respondents participated in the survey, where in, about 122(79.4%) were male respondents and the remaining 31(20.6%) were female(table 4.1). when the respondents were categorized as per there age, one respondent belonged to the age-group of below 20, about one hundred twenty seven(83%) belonged to the age-group of 20-30, nine respondents in the age-group of 30-40, seven respondents in the age-group of 40-50 and two respondents were above 50 years of age.

The demographic character of Education and income level was also studied; 36% of the total respondents were graduates, 61% postgraduates and about 1% high school. On the basis of income, 10% were those with family income of less than 2 lakhs, 18% with family income of 2-5 lakhs, 25% with family income of 5-8 lakhs, 13% with family income of 8-11 lakhs and they were 30% respondents with family income of more than 11 lakhs.

For providing information about the characteristics of the survey respondents, pie charts, bar graphs have been used.

Table 2 profile of respondents on the basis of gender

Gender	Total N	Percentage(%)
Male	122	79.4
Female	31	20.6
Total	153	100

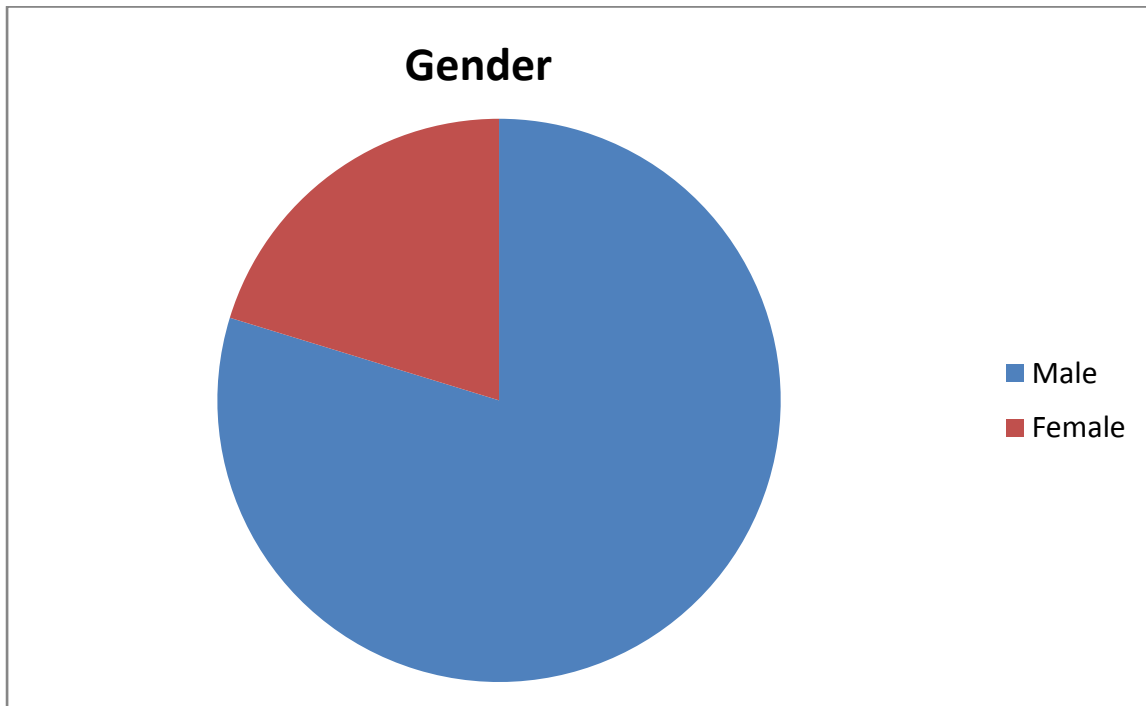


Fig 4.1 profile of respondents on the basis of gender

Table 3 profile of respondents on the basis of age

Age	Number (N)	Percentage (%)
Less than 20	1	0.6%
20 to 30	127	83.0%
30 to 40	19	11%
40 to 50	7	4.4%
Above 50	2	1%

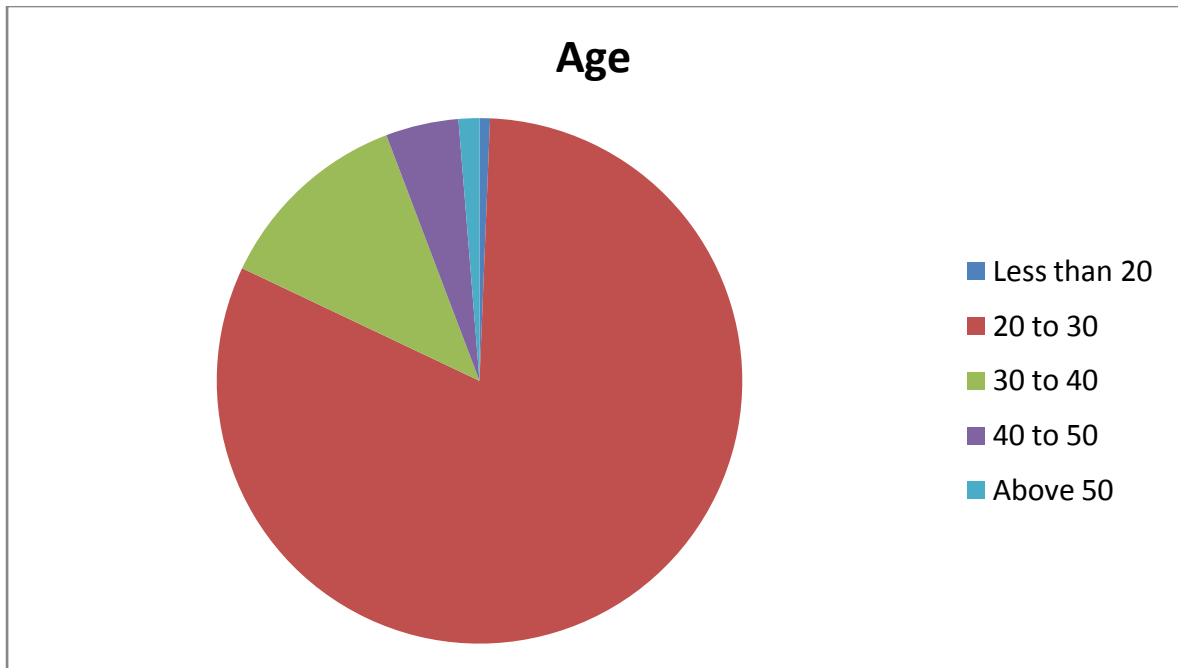


Fig 4.2 profile of respondents on the basis of Age

Table 4 profile of respondents on the basis of education level

Education level	Number (N)	percentage
High School	2	1.3%
Graduate	58	36.3%
Post Graduate	98	61.3%

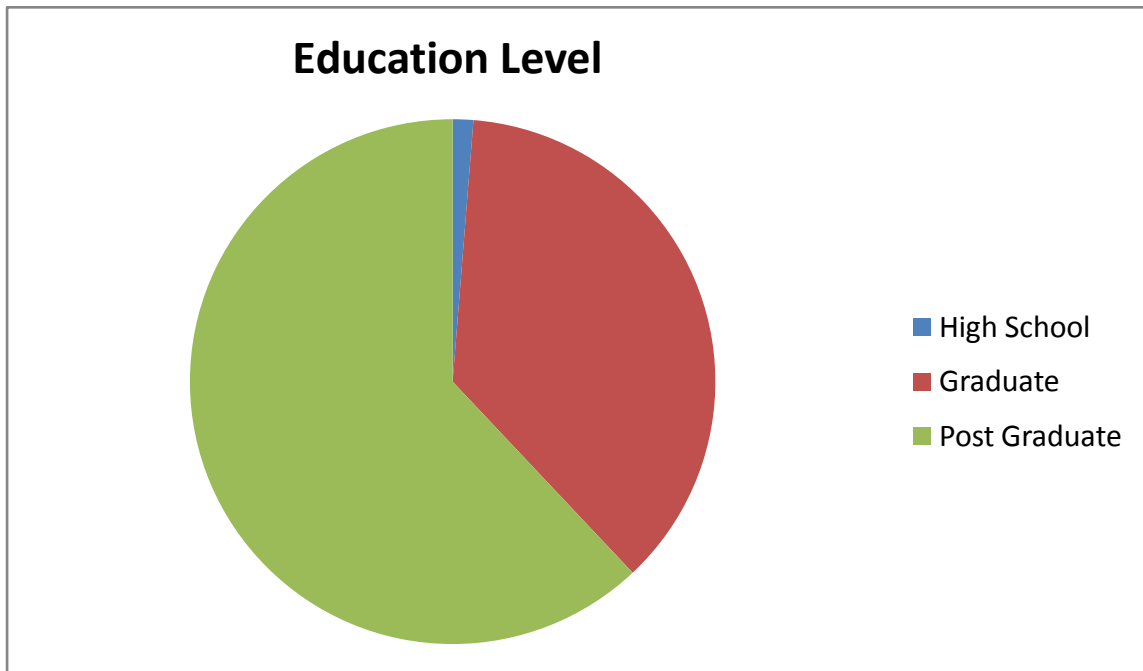


Fig 4.3 profile of respondents on the basis of Education Level

Table 5 profile of respondents on the basis of Income Level

Income Level	Number (N)	Percentage
Under 2 Lakhs	17	10.6%
2 Lakhs to 5 Lakhs	29	18.1%
5 Lakhs to 8 Lakhs	41	25.6%
8 Lakhs to 11 Lakhs	22	13.8%
More than 11 Lakhs	49	30.6%

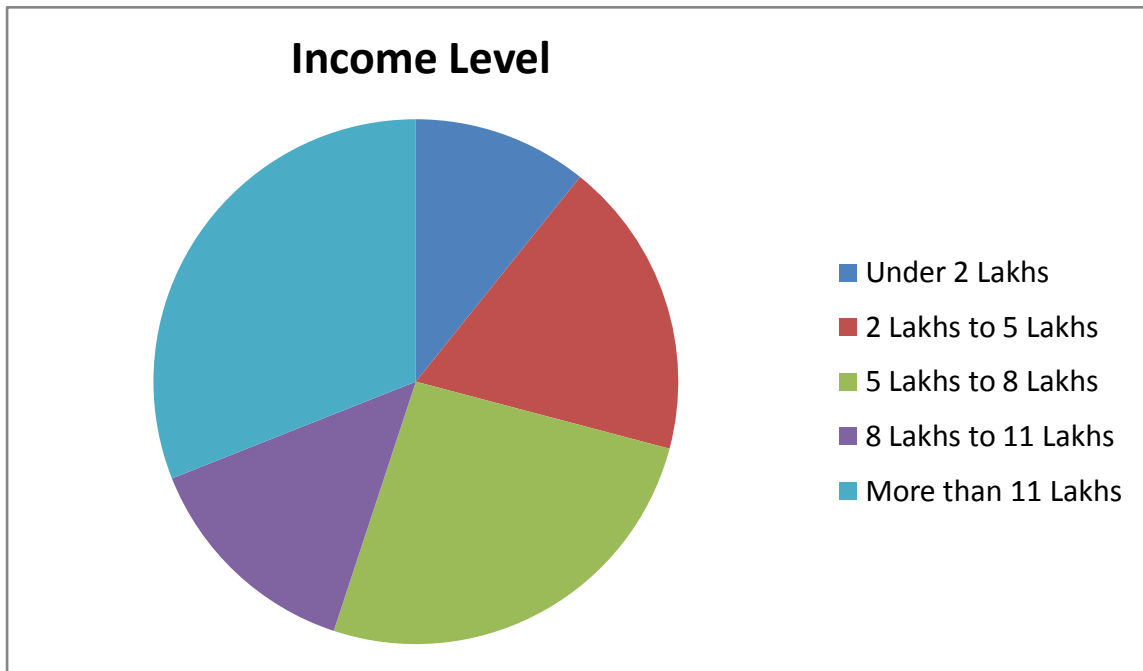


Fig 4.4 profile of respondents on the basis of Inome Level

Regression Analysis

The model emerged significant with a F value 44.66 and $p < 0.001$. Now, observing the hypothesis, four of the nine hypothesis were supported: H1, H4, H7 and H9 (Table 4.5). performance expectancy was observed to have the maximum influence on the behavioral intention, which was followed by perceived trust, facilitating condition and then customer incentive. However, the hypothesis of effort expectancy, price value, social influence, perceived risk and regulatory support i.e. H2, H3,H5,H6,H7 surprisingly did not influence the behavioural intention significantly. The significant thing to note is about 73.8 % of variance in the behavioral intention is explained by these constructs.

Table 6 Regression results (Coefficientsa)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.289	.303		-.955	.341
	Performance Expectancy	.350	.070	.352	4.966	.000
	Effort expectancy	-.011	.076	-.010	-.145	.885
	Social Influence	.046	.061	.049	.750	.454
	Facilitating Condition	.196	.081	.175	2.411	.017
	Price Value	.070	.085	.062	.821	.413
	Percieved Risk	-.051	.041	-.056	-1.245	.215
	Percieved Trust	.253	.078	.225	3.245	.001
	Percieved Regsup	.071	.061	.069	1.165	.246
	Customer Incentive	.167	.059	.163	2.817	.006

a. Dependent Variable: Mean_Behav_Intent

4.3. Findings And Recommendations

It was observed that the performance expectancy played a major role in the adoption intention of the consumers of the mobile wallet services, followed by perceived trust, facilitating condition and customer incentive. This goes to demonstrate that respondents are willing to switch to a new payment technology if they believe it is going to be beneficial to them, in-terms of time money, money and efforts saving. The perceived trust construct also has a positive bearing on the adoption intent of the respondents and so is the facilitating condition and customer incentive.

The study did not find the effort expectancy, social influence, price value, regulatory support and significantly influencing the adoption intent of mobile wallet, as most of the respondents were non-users, and it was difficult for them to presume how easy or difficult it would be to use mobile wallet services which is as per the earlier study carried out (Brown, 2003). Also since the mobile wallet service relatively new in India and many people even do not know about the services and hence, social influence is very unlikely to have any influence on the adoption intent of the respondents. Those respondents who have been using other online payment services like online-banking, card payment etc... are aware of the perceived risk of using such services and do not seem to consider it a major factor influencing their adoption intent of mobile wallet services.

In order to make the services more attractive and have a high impact on increasing the adoption rate of mobile wallet services, the marketers should focus on the effort expectancy. Since the majority of the respondents either had not heard about the services or had not used it before, the marketers should focus on informing the customers about this services and also the the hardware requirement for using such services(facilitating condition) and its potential benefits using media campaigns.

The dealings of the companies should as far as possible be seen as fair with consumers. As the consumers are going to transfer their savings in the mobile wallet accounts, the

customers need an assurance that all their transactions with the service providers would be safe and secure.

The consumers are attracted towards incentives and discounts, which is resulted in the data collected in the survey. The incentives being provided currently have failed to improve the customer adoption of mobile payment services. The marketers need to make changes in the current incentives for using payment service; incentives like fixed cash incentive on first mobile payment transaction, a fixed number of payment transaction to be free of cost on the first initial transactions etc. can be provided to make the consumers to introduce the customers to the services.

4.4. Limitations of the Study

The study was subjected to the following constraints :-

1. The sampling was non-random convenience sampling, limiting the generalizability of the study
2. The sample unit consisted of 153 respondents
3. The sample units were restricted to online mode only.
4. Time was limited
5. Cost constraints

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