Project Dissertation

On

A STUDY ON CONSUMER ADOPTION OF MOBILE WALLET

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CERTIFICATE FROM THE INSTITUTE

This is to certify that the project dissertation report titled "A STUDY ON CONSUMER ADOPTION OF MOBILE WALLET" is a bona fide work carried out by Mr. Muhammed Sadathu of MBA 2015-17 and submitted to Delhi School of Management, Delhi Technological University, Bawana Road, New Delhi-110042 in partial fulfilment of the requirement for the award of the Degree of Masters of Business Administration.

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DECLARATION

I, Muhammed Sadathu, student of MBA 2015-17 of Delhi School of Management, Delhi Technological University, Bawana Road, Delhi-110042, declare that the project dissertation report on "A STUDY ON CONSUMER ADOPTION OF MOBILE WALLET", submitted in partial fulfilment of Degree of Masters of Business Administration is the original work conducted by me.

The information and data given in the report is authentic to the best of my knowledge. This Report is not being submitted to any other University for award of any other Degree, Diploma and Fellowship.

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ACKNOWLEDGEMENT

EXECUTIVE SUMMARY

The global banking system and financial industry is transforming with the help of mobile technology by Providing more convenience and accessibility to their customers. Over the years, the necessity of phone has evolved and it is estimated to have more cell phone users than the number of bank account holders worldwide. The cost of using traditional methods to connect to customer and the focus on innovative business that are customer centric led to the inevitable design of mobile based technologies. The most common among this is mobile commerce, mobile banking, mobile payment, and mobile wallet. Mobile payments or mobile wallet bring together payment system, mobile devices and services to enable users to initiate, authorize, and complete financial transaction over mobile network or wireless communication technology (Chandra, 2010; Lu, 2011). Prior to the demonetization exercise, the number of users for this mobile wallet service were low even after having innumerable benefits for mobile wallet technology. The basic problem lies in the attitudes and intentions of the customers at the bottom of the pyramid whose adoption of mobile wallets would be capable of providing the required level of scale and profitability to this new technology (Shen, 2015). Since demonetization exercise the number of users is increasing and there is a change in customer behavior. Whether this change in attitude towards the usage of mobile wallet is temporary or permanent need to be seen. In this research paper, we intends to understand the factors that affect the consumer adoption of mobile wallet so that a strategic framework can be implemented to improve their adoption with the help of mobile wallet, mobile device manufacturers and regulatory body.

All respondents were volunteers while sharing their experience, personal interpretation and knowledge about the usefulness and intention of using the mobile wallet were truthful. The respondents were from pan India while most of them were either college going students or working professionals. It was prerequisite before obtaining the data that Internet enabled smartphone and bank accounts were imperative for the respondents. India is a country with different culture and since the data was collected from pan India it will give a better and diverse data about different customer's attitude towards adoption of mobile wallet. The data was collected using all the new social media methods like forwarding the response link via WhatsApp, Facebook, and also by sharing in LinkedIn. Apart from this traditional method of forwarding the link to

questionnaire through e-mail was also used. Among the people across the country the most technologically savvy and which constitutes the largest segment of modern technology users are youngsters. (Davis, 1989; Hanafizadeh et al., 2014; Yadav et al., 2016). Therefore the sample data collected were considered to be appropriate for the research study.

There are around 8 construct variables considered for the research study of which one have been developed for the first time. Multi scale is used for the research study which consists of around 73 questions which were identified to measure the dependent variables. For knowing the customer demographics nominal scale were used and for knowing the customers perspective ordinal scale were used. All items were measured using five point likert scale ranging from strongly agree to strongly disagree, to highly likely to highly unlikely, to most preferred to least preferred. The research instrument consisted of three parts. In the first part information related to General demographic details like gender, age, education, income and the usage of mobile wallet were recorded. The respondent's agreement or disagreement towards the selected 37 items selected were recorded on the second part. The third part consisted of items in which customers attitude towards the rest of the payments services were recorded along with the amount to which they value each variable for those services. The analysis tools used for the research purpose were excel and SPSS. The number of mobile wallet user's and non-mobile wallet users were represented in a pie chart to get a better idea of the percentage of customers using wallet services. With the help of convenience sampling, data responses for the main survey were obtained which were later analyzed. After finalizing the questionnaire and then conducting the survey, the resulting data was gathered. It was necessary that the gathered data is subjected to data analysis techniques which are appropriate and later the information is analyzed properly so as to accept or reject the hypothesis. It is the researcher's responsibility to select the appropriate method for doing the data analysis even though it can be done in several ways. Around 315 respondent participated in the survey giving their valuable time and responses of which 207 were males and 108 were females. That is male respondents consisted of 65.7% of the total respondents and female respondents were around 34.3%. With the help of these responses from the respondents, the factors that affect the consumer adoption of mobile wallet were analysed. Also we would be able to find

out the most preferred and least preferred wallet service. Also these questionnaire were helpful in finding out the customer perspective of other banking transaction services.

The final analysis is done with the help of Bar-Graphs, Pie charts, Use of SPSS (T-test, Anova, Regression and Paired T-test) to understand what leads to a consumer's adoption of mobile wallet.

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CHAPTER I

1. **INTRODUCTION**

1.1 Problem statement and study

The global banking system and financial industry is transforming with the help of mobile technology by Providing more convenience and accessibility to their customers. Over the years, the necessity of phone has evolved and it is estimated to have more cell phone users than the number of bank account holders worldwide. The cost of using traditional methods to connect to customer and the focus on innovative business that are customer centric led to the inevitable design of mobile based technologies. The most common among this is mobile commerce, mobile banking, mobile payment, and mobile wallet.

Mobile payments or mobile wallet bring together payment system, mobile devices and services to enable users to initiate, authorize, and complete financial transaction over mobile network or wireless communication technology (Chandra, 2010; Lu, 2011). India is considered to be the fasted growing smartphone market in Asia pacific (Livemint, 2014). With that introduction of Digital India project to transform the people of India to use the government services by integrating economy using internet and mobile phones as the backbone along with the demonetization exercise carried out by the government has increased the use of mobile devices and transactions through. The major banks in India expects customers to be accessing their accounts through mobile devices as their dominant channel. For this they have already developed mobile apps and websites for the mobile. This will help the bank in a way as the transaction cost involved for the same is very less as compared to banking transaction which cost around 43 times while ATM center cost them around 13 times. Recently major public and private banks have started concentrating on mobile wallet as a major platform for transaction of money along with few telecommunication companies and independent players whom got approval from the RBI to start payment banks. This will bring right blend of user experience along with convenience and functionality to the customers.

In India, the smartphone user number increased to 300 million as shipment grew by 18% of which Chinese mobile manufacturer had a contribution of 46 percent of total smartphone market. Smartphone has become necessity for the people and they will be buying phone anyway. It is stated in a report by IAMAI- IMRB that the internet user's number will increase to 450 million by June. It states that Urban India has close to 60% of penetration whereas Rural India has only a penetration of 17%. That is out of an estimated 444 million population in Urban India, 269 million 3people are using

internet which reflects to the level of saturation when compared to Rural India which is the bottom of the pyramid has only around 163 million users from an estimated population of 906 million. The report also states that 48% of Rural India's internet users are daily internet users and 83% use internet once in a month as estimated. It is stated in the report that around 92% of rural users and 77% of urban users access the internet through mobile as the primary device. Also the cut throat competition among mobile network service providers has resulted in fall in price which has significantly helped to the increase in mobile phone as the preferred internet access device (Livemint, 2017).

Indian market unique challenges and opportunities along with incredible growth makes it arguable the most dynamic and competitive environment worldwide. This has created a plethora of opportunities for mobile technologies companies and one among that is mobile wallet which is being started by independent companies like Paytm and already existing banks and telecom operators after getting approval from RBI. The confluence of such technologies has had a huge impact on the overall development and for the inclusive growth of the country.

Prior to the demonetization exercise, the number of users for this mobile wallet service were low even after having innumerable benefits for mobile wallet technology. The basic problem lies in the attitudes and intentions of the customers at the bottom of the pyramid whose adoption of mobile wallets would be capable of providing the required level of scale and profitability to this new technology (Shen, 2015). Since demonetization exercise the number of users is increasing and there is a change in customer behavior. Whether this change in attitude towards the usage of mobile wallet is temporary or permanent need to be seen. In this research paper, we intends to understand the factors that affect the consumer adoption of mobile wallet so that a strategic framework can be implemented to improve their adoption with the help of mobile wallet, mobile device manufacturers and regulatory body.

The research work is divided into four parts. The research problem is formulated as the first part. Hypothesis of the study and the proposed framework is detailed in the second part. A discussion based on analysis, the implications of the study and research methodology is covered in the third part. In the end, a conclusive answer is drawn, the limitations were outlined and future suggestions were given.

1.2 **Objectives:**

The primary objective of this research is to understand about the consumer adoption status of mobile wallet.

To achieve this, the author has to measure the market situation of mobile consumers toward mobile wallet. Since Demonetization, the usage of electronic money has increased. However, the High penetration rate of mobile phones and the existence of a majority of mobile phones capable of making mobile Payments cannot alone explain the success of mobile payments.

Since 1971, can be attributed in part to the increased usage of electronic money. However, the High penetration rate of mobile phones and the existence of a majority of mobile phones capable of making mobile Payments cannot alone explain the success of mobile payments. Based upon literature review done by researchers on mobile wallet technology adoption, a Comprehensive model integrating seven key consumer-related variables affecting the adoption of mobile Payment systems is proposed and research is done using this.

1.3 Sub Objectives:
- To understand user's willingness to adopt a new system or service.
- To understand the degree to which a person believes that using mobile wallet would enhance the task performance.
- To understand the perceived sense of risk and trust concerning disclosure of personal and financial information.
- An innovative product or service will not enjoy great success unless consumers are aware of its existence and the potential benefits it offers. Also the degree to which an individual user's perception is affected is by the belief of most people who are important to him/her toward the use of an innovation. So understanding the social influence is another thing.
- To get an idea about how customer thinks of mobile wallet and the extent to which a user perceives that using m-commerce is costly.
- This is to understand how variety of services and offers and discount effects the customer perception in using mobile wallet.
- To understand the intention of customers about whether they want to continue using the service.

- To find out the most used and least used wallet service.
- To find out the customer perspective of using other banking transaction services.

CHAPTER II

2. **Literature Review**

The theoretical foundation of adoption of technology along with banking and payment were examined, with focus given on adoption of mobile technology, mobile commerce, mobile payments and wallet adoption. There is a fair amount of study carried out in developed countries to understand the factors that affect the consumer

adoption of mobile wallet. Several theoretical frameworks to understand the adoption intentions for various information technologies and information systems have been developed. Few notable among them are the theory of reasoned action (Fishbein and Ajzen, 1975), the technology acceptance model (TAM) (Davis, 1989), the technology-organization and environment framework (Tornatzky and Fleischer, 1990), the theory of planned behavior (Ajzen, 1991), the diffusion of innovations theory (Roger, 1995) and the unified theory of acceptance and use of technology (UTAUT) (Venkatesh et al., 2003). These theories have been based on behavioral science and individual psychology. Researches have been conducted in the area of mobile wallet and the theoretical framework foundation that is used is either TAM (Slade et al., 2015). A classical TAM consists of perceived usefulness, perceived ease of use, attitude to understand the adoption behavior.

The adoption and wide spread of innovation in ICT has been researched using holistic model (Lin, 2003), structural models which use quantitative technique such as the theory of reasoned action (TRA), TAM, the extended TAM, as well as using UTAUT (Venkatesh et al., 2003). A holistic insights on the process of adoption in technological contexts where given by TRA which was developed in the 1970s (Fishbein and Ajzen, 1974), such as the internet (Hoffman and Novak, 1996; Pedersen and Nysveen, 2002; Taylor and Todd, 1995). Davis (1986) included an extension to TRA in to the TAM, in which the acceptance of technology and behaviors is explained. Davis theorized that the attitude towards personal computer adoption is dependent on perceived usefulness and perceived ease of use (PEOU). TAM key purpose was to analyze how internal beliefs, attitudes and intentions were affected by external factors (Davis et al., 1989).

Since TAM explained variance is around 40% (Venkatesh and Davis, 2000), few critics emphasize that this model is insufficient to analyze all kinds of technology. A service where cost is involved such as a mobile service (usually a connection charge and a service fee) the availability of resources should also be included as presumed by the perceived control construct from the theory of planned behavior (Ajzen, 1991).

TAM model even after having all these limitations is still used as a reference for analyzing the adoption and behavioral models which is centered on internet or other mobile contexts (Childers et al., 2001; Gefen and Straub, 2000; Gefen et al., 2003; Karjaluoto et al., 2009). Perceived risk (Bauer, 1960; Jacoby and Kaplan, 1972) as well as perceived characteristics of innovating (Moore and Benbasat, 1991; Gefen et

al., 2003), gave a different relevant perspective to the adoption research (Meuter et al., 2005).

The approaches used and the conceptualization used in the field of research is far from unanimous (Tornatzky and Klein, 1982; Moore and Benbasat, 1991). On the basis of diffusion of innovation (DOI) which is based on Rogers (2003), only a few studies accurately explains the perceived innovation characteristics. A model was developed to explain the consumer readiness to use self-service technologies (SST) by Meuter et al. (2005). It was found that the constructs were different from the model Rogers' (2003) proposed as for Meuter et al. (2005) perceived risk was also a relevant determinant. An approach which focused on the factors that affect the resistance to innovation adoption was studied (Ellen et al., 1991; Bouwman et al., 2007). It was found from this research work approach that innovation adoption and dissemination analyzed on prior researches has a "pro-innovation bias". This is based on the fact that innovations are all good and all consumers should automatically be adopted (Rogers, 2003). On contrast, it was argued by Ram (1987) that "resistance to change is a normal consumer response", which is expected to coexist with adoption behavior. He states that it is normal that resistance to innovation is a common response from the customer and he states that understanding this process is the professional responsibility of marketers. It was found that a high level of innovation and rate of failure is recorded for many products simultaneously Ram and Sheth (1989). Functional barriers are divided in to three according to these authors. The first is the usage barrier which is related to the conflict people have with their work, habits and routines and the perception of it. One of the most common use of resistance to innovation is this reason. Another functional barrier is the value barrier which is the perception of the customers on the practical benefits associated with product. The secure use of innovation and the uncertainty around it is the risk barrier. It was revealed that there is significant differences between users and non-users perspective of adoption of mobile wallet on the basis of internet surveys done by Laukkanen et al. (2007) and Cruz et al. (2009) with the help of using Ram and Sheth (1989). According to Carlsson et al. (2005), there is an asynchronous difference between the development of mobile wallet technology and the adoption of the technology. In the case of mobile wallet also this is no different. We should be singling out the most significant factors that have good influence in mobile wallet adoption since the research focuses on the analysis of the

same. For a richer understanding of the mobile service phenomenon it is necessary to have an integration of various theoretical perspective (Nysveen et al., 2005a; Konana and Balasubramanian, 2005). The construct used this research study is also based on the integration of various theoretical points which will give a better and wider understanding of the factors that motives consumers to adopt mobile wallet. Nysveen et al. (2005b) stated that for understanding the factors influencing mobile service usages there are several unexplored dimensions. Due to these tree constraints mentioned below the conceptualization of measurement was simplified. The constraints being the mobile wallet context, the country context and the operative context. The understanding of questions will be maximized and more results which are objective for finding out the resistance motives could be incorporated in to the marketing decisions that are made by bank to increase the consumer adoption of mobile wallet. The direct insight similar to the one obtained from a critical incident approach (Meuter et al., 2000) can be found using such kinds of instrument. For any innovation diffusion process information is so crucial. The way dissemination through various channels of communication for social system members is done gives the information on innovation (Rogers, 2003). In the success or failure of innovation diffusion process can be due to the fact of good or bad communication, which is very much valid for the mobile wallet services (Jun and Cai, 2001; Cruz et al., 2010).

Venkatesh et al. (2000) excluded attitude and added two essential variables like social influence and cognitive instrumental processes which was an essential factor to understand the adoption intentions while extending the original TAM model (Wu et al., 2008). Later TAM model was criticized for not considering the characteristics of individual characteristics and thus accepting or rejecting technology on the basis of that (Agarwal and Prasad, 1999; McMaster and Wastell, 2005; Slade et al., 2015).Venkatesh et al., (2003) later researched on factors effecting the integration of new technology innovations to consumers. This helped him in forming a new model called the Unified Theory of Acceptance and Use of Technology (UTAUT) and suggested that the actual use of information technology comes from the intention to use information technology which comes from the individual reaction to using an information technology.

Individual psychology and behavioral sciences plays a very significant role in determining the mobile wallet adoption was suggested by Lu, Yao and Yu (2005).

They suggested that variables like PI and SI should has to be taken into consideration even if PU and PE are strong variables when determining consumer acceptance.

Lee (2005) investigated on the impact of customer trust and transactions done in mobile commerce. He stated that in determining customer transaction intentions trust plays an important role. Lin and Wang (2006) investigated on the factors that affected the customer satisfaction and loyalty in mobile commerce. He concluded his research study by finding out that PV and trust were related directly with customer satisfaction and loyalty of customer. They found out that loyalty of customer was positively affected by customer satisfaction. They also found out that perceived value, trust and habit also directly affected loyalty of customer. For the acceptance of mobile commerce loyalty of customer was found out to be a very strong determining factor.

Amoroso and Hunsinger (2009) expanded the original TAM model by including variables like perceived risk, trust, privacy, website quality, e-satisfaction, e-loyalty and expectations of internet information to better understand the consumer behavior over the intention to purchase through internet. This research work showed that convenience, perceived value, e-loyalty all played an important role in determining the customer satisfaction with respect to the mobile applications which they use frequently.

Kuo, Wu, and Deng (2009) found out the relation between perceived value, customer satisfaction and post purchase intention and found out how these variables are positively influenced by service quality. He found out that both customer satisfaction and post purchase intentions are positively influenced by perceived value and also he found that customer satisfaction influenced post purchase intention positively.

F. He along with Mykytyn (2007) investigated on the factors that affect the online payment services adoption for customers. They found out that the consumer had a consideration towards risk involved and apart from that everyone favored the concept of online payment. Consumer's actual use of online payment was associated with perceived usefulness, perceived ease of use and intention to use as suggested by a model developed by Rigopoulos and Askounis (2007).

Deng, Chen (2010) suggested that perceived use, perceived ease of use, perceived risk and compatibility as four factors which influenced the consumer intention to use mobile payments. He suggested that compatibility was among the strongest factor

among these. The extent to which mpayment compatible with the prospective customer's lifestyle is referred to as compatibility.

Mbogo (2010) research work on factors that determine the use of mobile payments with microbusinesses in Kenya concluded that customer's intention to use mobile wallet services and mobile payments actual usage were related to convenience which comes along with technology of money transfer along with accessibility, cost support and security factors. He stated that perceived convenience, perceived ease of accessibility and perceived support had positive and direct impact on mobile payment services usage intentions.

Social influence, self-efficiency, security and trust were four factors proposed by Shin (2009) after he examined the adoption of mobile wallet by consumers. He stated that factors which are very familiar like perceived usefulness and ease of use are key determinants in adoption and acceptance of mobile wallet. Also he stated that perceived security and risk also positively influenced mobile wallet adoption. The research stated that social influence plays a key role in enhancing the security and trust among the consumers.

2.1 Perceived Innovativeness

It is being believed by some researchers that the most proximate influence on an individual's cognitive interpretations of a target object comes from individual related factor. Drawing upon Roger's theory of diffusion of innovations, Agarwal and Prasad (1998) Individuals with higher personal innovativeness have better chance of adopting to a new innovation earlier. It is necessary to be re-conceptualized domain specific when it comes to this construct as opposed globally. To predict the individual behavior towards an innovation, they believed this was necessary. PI is known as an individual's willingness to try out a new technological innovation. The risk tasking propensity is some quality which is available in few individuals and not in others. Individuals with higher level of PI are expected to have positive perception about innovation and a more positive intentions towards using a new IT/IS.

2.2 Perceived Ease of Use

This was another important construct when it comes to the TAM model (Davis, 1989). Davis defined PE as "the degree to which a person believes that using a particular

system would be free of effort" (Davis, 1989, p. 320, line 70-72). PE is being used by many researchers as an important factor in determining the consumer adoption of information technology related services (Lee et al., 2004; Shin, 2009; Kim et al., 2010; Schierz et al., 2010; Wang and Yi, 2012; Amoroso and Magnier-Watanabe, 2012; Pham and Ho, 2014; Yan and Yang, 2015). The UTAUT research model (Venkatesh et al., 2003) also suggested this construct variable as an important factor. It is similar to effort expectancy which is defined as "the degree of ease associated with consumers' use of technology" (Venkatesh et al., 2012, p. 159, line 62-63). That is, it is the expectation of customers about wallet services that it will be easy to learn and free from effort. It is suggested that the higher the PE the higher will be the chance of consumer adopting mobile wallet.

2.3 Performance Usefulness

(Davis, 1989). PU is defined "as the degree to which a person believes that using a particular system would enhance his or her job performance" (Davis, 1989, p. 320, line 57-60).the significance of this factor is also validated in research models like TAM2 (Venkatesh and Davis,2000), and also inTAM3 (Venkatesh and Bala, 2008). In the UTAUT research model suggested by venkatesh (Venkatesh et al., 2003), PE was among the important construct. For finding out the customer's perspective of mobile wallet adoption intentions, this factor was considered by other research scholars (Lee et al., 2004; Shin, 2009; Schierz et al., 2010; Kim et al., 2010; Wang and Yi, 2012; Amoroso and Magnier-Watanabe, 2012; Pham and Ho, 2014; Slade et al., 2015; Yan and Yang, 2015).

It is similar to Performance expectancy, which is "The degree to which using a technology will provide benefits to consumers in performing certain activities" is defined as Performance Expectancy from customer's point of view (Venkatesh et al., 2012, p. 159, line 60-62). In mobile wallet context it is explained as the degree to which a customer believes that using mobile wallet as an alternative technology for transaction purposes will improve the overall performance of transactions related to purchase and daily activities.). It is assumed that higher the Performance Expectancy, the higher is the chance for customer to adopt a mobile wallet technology.

2.4 Perceived Risk

Any product related, or any social or any financial risk that is perceived by the consumer's while doing an online transaction is known as PR (Wu and Wang, 2005). There will be an increase in the issue related to security or risk related to privacy while making a mobile wallet transaction since mobile phones stores personal information. A large number of researchers have this factor included for their research studies and has agreed to its significance and negative impact it has on consumer's intention to adopt mobile wallet (Amoroso and Magnier-Watanabe, 2012; Pham and Ho, 2014; Liébana-Cabanillas et al., 2014; Slade et al., 2015). In this study, security dimension along with privacy dimension is considered to be the main risk while doing a mobile wallet transaction. So it is considered as a factor decomposed from perceived value which is considered to be the price paid to get extra values offered by the wallet services. Considering security and privacy risk as separate factor from perceived value is consistent when previous researches in the area of technology adoption is studied (Amoroso and Magnier-Watanabe, 2012; Pham and Ho, 2014; Slade et al., 2015). It is proposed that the lower the perceived risk, higher will be the chance of people accepting a mobile wallet technology.

2.5 Marketing & Social Influence

The consumer's decision to use a product or service usually depends on the opinions of family, friends or relatives. The extent to which consumer's decision of adoption depends is referred to as SI (Riquelme and Rios, 2010). It is defined as "the extent to which consumers perceive that important others (e.g. family and friends) believe they should use a particular technology" (Venkatesh et al., 2012, p. 159, line 64-66). This is a widely used and accepted construct variable by most of the previous researchers as a factor which is important in determining the consumers intention of adoption of technologies like mobile wallet (Lee et al., 2004; Schierz et al., 2010; Amoroso and Magnier-Watanabe, 2012; Yang et al., 2012). TAM2 research model (Venkatesh and Davis, 2000), UTAUT (Venkatesh et al., 2003) and UTAUT2 (Venkatesh et al., 2012), all included SI as a construct variable which is important while finding out the usage intention of similar technologies. The higher the value of SI, the higher will be the chance of consumer's adoption intention of mobile wallet.

2.6 Perceived Cost

It is the perception of cost of an individual. It is a secondary attribute as it is a way in which one calculated the price relative to one's disposable income (Moore & Benbasat, 1991, p. 194). It is the individual's perception of the extent to which a new technology will cost. The use of any service will be encouraged when customers believes that the usage of particular service could be advantageous to them (black et al., 2001). It can be identified that cost plays a very important role in consumer's perception of adopting a new technology (Carlsson et al., 2006; Nysveen et al., 2005a). It has been noted by Moore and Benbasat (1991) that a major impact has been created by perceived cost on consumers buying behavior. Majority of the respondents (59%) emphasized on cost as a major barrier for the adoption of mobile wallet according to an extensive study conducted by KPMG international (2009) in around 19 countries.

2.7 Variety of Service

The extent to which variety of services along with offers and discount effects the customer perception in adoption of mobile wallet. The adoption of a new technology is dependent on the variety and amount of services provided. In case of mobile wallet the selection of a particular wallet service depends on the services provided along with the offers and discounts. This is a construct which is being made for the first time to find the intention of consumer adoption of mobile wallet. The perception of the benefits it has to offer to its customer determines the adoption of mobile wallet. In the case of consumer based technology adoption it is true. Variety of services includes all the places where the wallet services can be used and usage of mobile wallet for other transaction purposes. Offers and discounts include various kinds of benefits such as coupon codes, app download cash rewards, referral points, cash discount, and loyalty points. The promotional codes helps in enhancing the customer experience and thus will help in retaining the already existing customers as well as help in gaining new customers (Bigcommerce.com, 2015). A report in UK states that on the basis of offers and promotional codes around 50% of customers online change their purchasing decisions (Rapid Campaign Report, 2015; Brooks, 2015). A similar inclination towards the promotion and offers were showed by US customers when a survey was conducted (Brooks, 2015). With the competition growing day by day by direct and indirect competitors, variety of service and offers will play an important role in consumer's adoption of mobile wallet. A customer who is rational makes a decision based on balancing the others factors as well as considering all these benefits being

provided. Usually offers are communicated using mass media and it is been found to influence the consumer behavior to a very good extend. So it is suggested that higher the variety of service, higher will be the consumer intention of adopting mobile wallet service.

2.8 Usage Intention

UI is defined as ones intention to continue using a service in the post acceptance stage. It is in a way similar to the repurchase decision as in both cases decisions are influenced by the usage in the initial stage (Bhattacherjee, 2001). Analysis on both organizational level as well as individual level this research has been conducted (Limayem, hirt & cheung, 2007). The initial stage acceptance decision is the reason by the adopters to continue using the services and thus result in continued usage intention behavior (Kim, Chen & chan, 2007). Also the initial acceptance depends on various factors that affect the individual decision to continue using a particular service (Limayem, Hirt, & Chin, 2001). Most of these factors are the construct which we have taken for the research study.

CHAPTER III

3. **Research Methodology**

The proposed research model is illustrated in the figure given below (figure 3.1). It is based on the extensive literature review which was explained in the previous section. The model advocate that the adoption of mobile wallet technology by consumer depends on the user's personal innovativeness, perceived ease of use, perceived usefulness, perceived risk, marketing and social influence, perceived cost and variety of services.
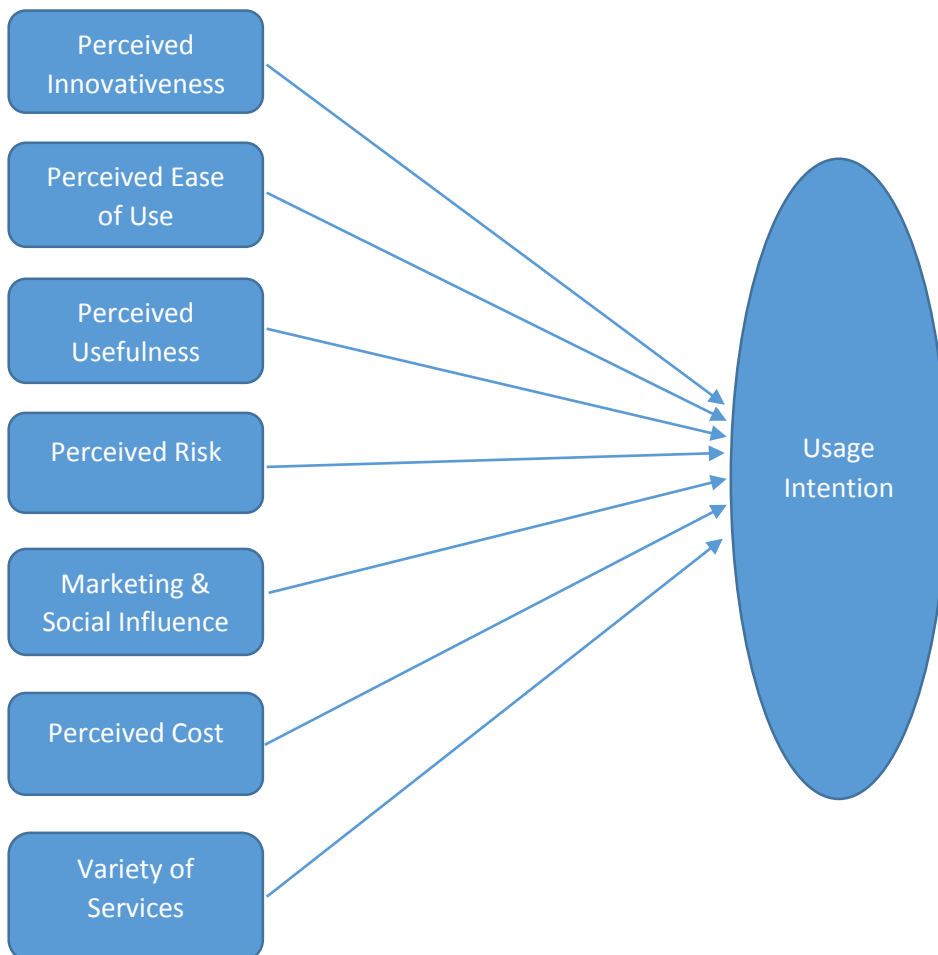
Figure 3.A: Proposed Model of Factors affecting Usage Intention of Mobile Wallet

Scientific and systematic search for relevant information on a specific topics is what is meant by research. Research is a careful analysis for search of new facts in any branch of knowledge. In an research paper problems are defined and redefined, hypothesis are formulated, and solutions are suggested, collection, organization and evaluation of data is done; deductions are made and conclusions are reached and

careful testing of conclusion is done to determine whether it fit with the formulated hypothesis.

The study of methods through which we gain knowledge is known as methodology. The problems arising from the nature of its subject matter is studied and the methodology deals with the cognitive processes applied on the research work.

3.1 Need For the Study

The growing importance of services using mobile and digital platform has led to the study of the consumer behavior while adopting mobile wallet technology. The introduction of mobile payment was done during the year 2007 and the usage among the general public were until demonetization exercise were carried out by the government. Post demonetization the usage of mobile wallet technology increased and bottom of the pyramid people also started using the technology. This research will help in studying the behavior of customers towards mobile wallet technology which will in turn help in making the mobile wallet service more popular and attractive by making the necessary changes according to the customer. This research study concentrates on few factor which is assumed to impact the customer adoption of mobile wallet. So it will be helpful in analyzing those factors. This will help the government, telecommunication network providers and the wallet service providers is plan accordingly to provide a better service.

3.2 Key Assumptions

It has been assumed due to the anonymity and confidentiality of the data collected and also due to the fact that all respondents were volunteers while sharing their experience, personal interpretation and knowledge about the usefulness and intention of using the mobile wallet were truthful.

3.3 Data Collection

The respondents were from pan India while most of them were either college going students or working professionals. It was prerequisite before obtaining the data that Internet enabled smartphone and bank accounts were imperative for the respondents. India is a country with different culture and since the data was collected from pan India it will give a better and diverse data about different customer's attitude towards adoption of mobile wallet. The data was collected using all the new social media

methods like forwarding the response link via WhatsApp, Facebook, and also by sharing in LinkedIn. Apart from this traditional method of forwarding the link to questionnaire through e-mail was also used. Among the people across the country the most technologically savvy and which constitutes the largest segment of modern technology users are youngsters. (Davis, 1989; Hanafizadeh et al., 2014; Yadav et al., 2016). Therefore the sample data collected were considered to be appropriate for the research study.

3.4 Constructs Measurement

There are around 8 dependent variables considered for the research study of which one have been developed for the first time. Multi scale is used for the research study which consists of around 73 questions which were identified to measure the dependent variables. For knowing the customer demographics nominal scale was used and for knowing the customers perspective ordinal scale was used. All items were measured using five point likert scale ranging from strongly agree to strongly disagree, to highly likely to highly unlikely, to most preferred to least preferred.

3.5 Research Instrument

The research instrument consisted of three parts. In the first part information related to General demographic details like gender, age, education, income and the usage of mobile wallet were recorded.

The respondent's agreement or disagreement towards the selected 37 items selected were recorded on the second part. The third part consisted of items in which customers attitude towards the rest of the payments services were recorded along with the amount to which they value each variable for those services. Several discussions were made with our HOD to discuss about the pros and cons of each questions and after making several changes the final question was finalized. Items displaying semantic differentials and creating ambiguity during the feedback response were altered and rephrased to make a better questionnaire and response output as those were not important in the mobile wallet context. The analysis tools used for the research purpose were excel and SPSS. The data cleaning part was done using excel and later the analysis test was conducted using SPSS. During the analysis there were a number of test conducted to find out the customer perspective as well as customer preference. In the early stage mean of each parts were found out to know how customers have

answered the questionnaire. After that independent t-test and Anova was conducted on the responses to find out the relation between demographics and construct variables. Later paired t-test was used to find out the relation between constructs. The response values and test values were shown in tables. The number of mobile wallet user's and non-mobile wallet users were represented in a pie chart to get a better idea of the percentage of customers using wallet services. During the course of this research paper personal innovativeness will be represented as PI, perceived ease of use as PE, perceived usefulness as PU, perceived risk as PR, marketing & social influence as SI, perceived cost as PC, variety of service as VS, usage intention as UI.

3.6 **Sampling**

This research study made use of both convenience sampling to get the respondents answer the questionnaire. There were studies undertaken to understand the IT/IS adoption that were conducted in the past and this was in line with that (Pham and Ho, 2014; Amoroso and Magnier-Watanabe, 2012; Chong et al., 2012). So with the help of convenience sampling data responses for the main survey was obtained which was later analyzed to find out the consumer adoption behavior of mobile wallet.

CHAPTER IV

4. DATA ANALYSIS AND INTERPRETATIONS

After finalizing the questionnaire and then conducting the survey, the resulting data is gathered. It is necessary that the gathered data is subjected to data analysis techniques which are appropriate and later the information is analyzed properly so as to accept or reject the hypothesis. It is the researcher's responsibility to select the appropriate method for doing the data analysis even though it can be done in several ways.

Around 315 respondent participated in the survey giving their valuable time and responses of which 207 were males and 108 were females. That is male respondents consisted of 65.7% of the total respondents and female respondents were around 34.3% from the demographics table (Table 4.1).

Table 4.1: Demographic Analysis

Sample Characteristics	Frequency (n=315)	Percentage
Gender		
Male	207	65.7 %
Female	108	34.3%
AGE		
18-25	160	50.8%
26-35	148	47%
35 – 59	6	1.9%
60 and above	1	0.3%
Education		
School	4	1.3%
College	132	41.9%
Working professional	167	53%
Housewife	3	1%
Entrepreneur	3	1%
Self employed	6	1.9%
Income Level		
Less than 5k	127	40.3%
5-15k	51	16.2%
15-25k	24	7.6%

25 and above	113	35.9%
MOBILE WALLET USAGE		
EVERYDAY	14	5%
3-4 TIMES/WEEK	55	19.7%
ONCE EVERYWEEK	54	19.4%
1-2 TIMES/MONTH	60	21.5%
LESS THAN ONCE A MONTH	96	34.4%

When categorizing the respondent on the basis of age, it was found that the maximum amount of respondents were college going students within the age of 18-25. Respondents in this category comprised of 50.8% which was around 160 respondents out of the total 315. From the age category of 26-35 there were around 148 respondents which was around 47%. Rest comprised of around two percent due to the fact that smartphone re more used among youth and working people who are generally young.

The demographic character of education was studied and out of the 315 respondent around 132 were college students which is around 41.9% of total respondent.167 were working professional which is around 53%.

When the income level of respondents were studied, people from all category was using mobile wallet. Around 35.9% had a monthly salary of 25k or more and 40.3% of the respondents were having an income of below 5k which comprised mainly of school and college going students.

Among the respondents having smartphones and internet connections, 213 respondents were using mobile wallet which is a good number. It means around 67.6% used mobile wallet services.

While analyzing the usage frequency of mobile wallet by our respondents from the table (Table no.4.1), it was found that the percentage of people using mobile wallet everyday was less than one percent which means people rely on other means of payment methods to do day to day transactions. The amount of people who are not using mobile wallet service is around 1/3rd of the total respondents. This market can be tapped to increase the profitability of mobile wallet service. Rest of the respondents

are frequent user with around 55 respondents using 3-4 times a week, 54 respondents using once every week and around 60 people using around 1-2 times a month.

Table 4.2: MOBILE WALLET USER'S AMONG RESPONDENTS

MOBILE WALLET USER'S	No. of customers	Percentage
YES	213	67.6%
NO	102	32.4%
Total	**315**	**100**%

This is shown using the pie chart to get a better understanding of the percentage of people using the mobile wallet service in the chart given below (Chart No.1).

Chart 4.2.1: PIE CHART OF MOBILE WALLET USER'S RESPONDENTS
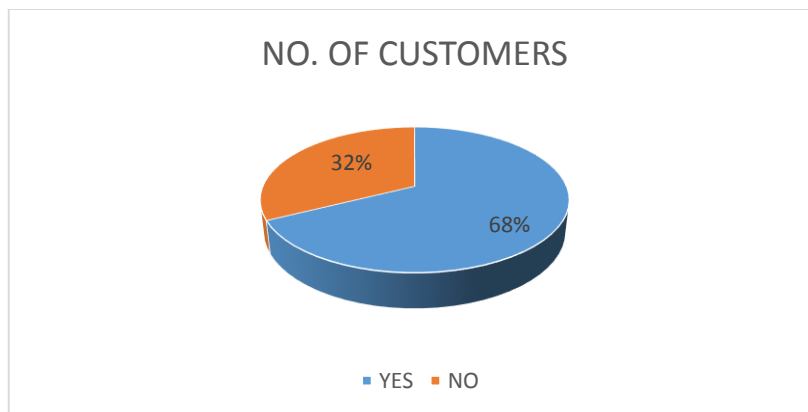
While studying the usage frequency of respondents, the amount of users using mobile wallet less than once was high compared to the users using it every day, 3-4 times/week, once a week, 1-2 times/month. The details of this is given below in table along with the chart which shows the percentage of each category of frequency of usage.

4.1 REGRESSION ANALYSIS

To find out how usage intention of customers is affected by the construct being taken, a regression analysis was done. For this independent variables like PI, PE, PU, PR, SI, PC, VS was taken against UI to find out the customer perspective is about adoption of mobile wallet. A null hypothesis of each independent variables dint influence the dependent variable was taken and an alternative hypothesis of the independent variable

influencing dependent variable were taken. It was found from the table (Table no 4.3) out that R-Square value was 0.353 (>0.25). This meant that around 35.3 percent of the dependent variable was explained by the coefficients of significance (Independent variables). On the basis of P-value, Null Hypothesis was rejected for PI, PE, PU, PC, and VS (P value<0.05), while it was accepted for PR and SI. This meant that PI, PE, PU and VS have a significant role to contribute towards consumer adoption of mobile wallet. Perceived cost was not that significant due to its negative value of beta (β= -0.128). From the value of Beta it can be seen that PE is the most powerful contributor towards consumer adoption of mobile wallet. After that PU, PI, and VS all plays a significant contribution towards consumer adoption of mobile wallet.

4.2 HYPOTHESES OF THE STUDY

$\mathbf{H_{01}}$**:** There is no significant difference in Male's and Female's observation for PI, PE, PU, PR, Marketing & social influence, PC, VS, and usage intention.

$\mathbf{H_{A1}}$**:** There is significant difference in Male's and Female's observation for PI, PE, PU, PR, Marketing & social influence, PC, VS, and usage intention.

$\mathbf{H_{02}}$**:** There is no significant difference in observations for PI, PE, PU, PR, Marketing & social influence, PC, VS, and usage intention between different age groups.

$\mathbf{H_{A2}}$**:** There is significant difference in observations for PI, PE, PU, PR, Marketing & social influence, PC, VS, and usage intention between different age groups.

$\mathbf{H_{03}}$**:** There is no significant difference in observations for PI, PE, PU, PR, Marketing & social influence, PC, VS, and usage intention between different education levels.

$\mathbf{H_{A3}}$: There is significant difference in observations for PI, PE, PU, PR, Marketing & social influence, PC, VS, and usage intention between different education levels.

$\mathbf{H_{04}}$**:** There is no significant difference in observations for PI, PE, PU, PR, Marketing & social influence, PC, VS, and usage intention between different income levels.

$\mathbf{H_{A4}}$: There is significant difference in observations for PI, PE, PU, PR, Marketing & social influence, PC, VS, and usage intention between different income levels.

H$_{05}$: There is no significant difference in observations for PI, PE, PU, PR, Marketing & social influence, PC, VS, and usage intention between those people using mobile wallet and those not using it.

H$_{A5}$: There is significant difference in observations for PI, PE, PU, PR, Marketing & social influence, PC, VS, and usage intention between those people using mobile wallet and those not using it.

H$_{06}$: There is no significant difference in observations for PI, PE, PU, PR, Marketing & social influence, PC, VS, and usage intention between different frequencies of usage.

H$_{A6}$: There is significant difference in observations for PI, PE, PU, PR, Marketing & social influence, PC, VS, and usage intention between different frequencies of usage.

H$_{07}$: There is no significant difference between the pairs of dependent variables.

H$_{A7}$: There is significant difference between the pairs of dependent variables.

4.3 INDEPENDENT T-TEST AND ANOVA ANALYSIS

After the hypotheses were assumed, various test were conducted on these constructs. In the beginning independent T-test and Anova was conducted on these independent and dependent variables. Independent variable gender along with the dependent variables were analyzed with the help of data available using independent T-test, it can be inferred from the table (Table 4.3.1) that Males and Females perception of PR, PE, PU, Marketing & social influence, PC, VS, and usage intention of mobile wallet service are same (Value of P>0.05). They differ in their perspective when it comes to perceived innovativeness.

Later when the independent variable of age groups is analyzed with the dependent variables with the help of data available using independent Anova test, it can be inferred from the table (Table 4.3.2) that all ages groups perception of PI, PE, PU, Marketing & social influence, PC, VS, and usage intention of mobile wallet service are same (Value of P>0.05) except for their perspective of perceived risk.

Then the independent variable of EDUCATION groups along with the dependent variables were analyzed with the help of data available using independent Anova test, it can be inferred that all ages groups perception of PI, PE, PU, PR, Marketing & social

influence, PC, VS, and usage intention of mobile wallet service are same (Value of P>0.05) as given in the table (Table 4.3.3).

After analyzing that of the education group, monthly income was analyzed with dependent variable. The independent variable of age groups along with the dependent variables with the help of data available were analyzed using independent Anova test. It can be inferred that all ages groups perception of PI, PE, PU, PR, Marketing & social influence, PC, VS, and usage intention of mobile wallet service are same (Value of P>0.05) as given in the table (Table 4.3.4).

When the independent variable of MOBILE WALLET USER's with the dependent variables were analyzed with the help of data available using independent T- test, it can be inferred that people who are using mobile wallet and those not using mobile wallet had different perception. It was found that their perception was only same for perceived risk and for perceived cost. When it comes to PI, PE, PU, marketing and social influence, VS and usage intention, their perspective were different and this is something which has to be changed by giving more awareness. (Value of P>0.05). This is being given in the table about the significance level of people who are using mobile wallet and those not using it. (Table 4.3.5).

In the end FREQUENCY OF USAGE were also used to analyze the independent variables. After analyzing the independent variable of FREQUENCY OF USAGE groups with the dependent variables with the help of data available using independent Anova test, it can be inferred that all ages groups perception of PI, PE, PU, Marketing & social influence, VS, and usage intention of mobile wallet service are different (Value of P<0.05) except for perceived cost in which all group think likely as given in the table (Table 4.3.6). Here according to the usage of mobile wallet their perspective is also different.

4.4 PAIRED T-TEST ANALYSIS

After doing independent T-test and Anova test, a paired T-test was conducted and data were analyzed with the help of mean values to find out the customer perspective of each dependent variables from the table (Table 4.4.1). After analyzing the dependent variables and comparing with each other with the help of data available using paired T- test, it can be inferred that all dependent variables have significant difference in their order of importance from customer group's perception except for the pairs of PI

with PU and for the pair of PR with SI. This means that the respondent's perspective about each of the dependent factor is different and respondents gave a similar response to PI & PU and to PR & SI. In order to understand the importance of each of these dependent factor on the basis of respondent's perspective we have to find out the mean.

Later by analyzing the mean after calculating it for all the dependent factors with the help of survey done on respondents who use smartphones along with internet it was understood that PE is one of the main factor customers look on to when using a mobile wallet. Also along with PE, PU is another factor which is important to decision making of customers to use mobile wallet. From the table (Table 4.4.2) it was inferred that Personal innovativeness and variety of service was also a very important factor for any mobile wallet service.

It was understood that perceived cost dint play an important role as customers who were using mobile wallet and those who were not using mobile wallet thought differently about perceived cost. Customers using mobile wallet is aware of cost involved and they believe that perceived cost doesn't play an important role in deciding the usage of mobile wallet. The people who have been using mobile wallet has the intention to continue using service as they believe it will reduce their effort and has a lot of variety of service. When we take the dependent variable of perceived ease of use, the respondents believe that it is easier to make payment using mobile wallet and also they believe it saves a lot of time. Respondents also believe to use mobile wallet more when mobile wallet is widely available in India.

When respondents were asked about the mobile wallets they uses. It was understood from the response that Paytm is the most popular mobile wallet service among the users. Around 253 respondents were using this mobile wallet service. It is understood that they are more popular due to the fact that they are earlier movers and they provide good discounts and offers along with variety of services. This is followed by Freecharge and Mobikwik in the order of popularity. If we see the most popular ones in mobile wallet services, then we can understand that these three are the most used due to good offers and variety of services. SBI is also catching up with their wallet service SBI buddy and this is due to the fact that they have large loyal customer base and are providing good offers.

With the introduction of UPI and BHIM there were a lot of options for consumers. So while asking the customers about their preference of service using for money

transaction it was understood that net banking is still the most preferred followed by credit and debit card. Mobile wallet service comes after these two and UPI and BHIM is not yet popular among the users from the table (Table 4.4.3).

It is understood that even if net banking doesn't provide offers and discount it is favored among users because of the security reason that they believe net banking is more secure and risk free. It is understood that respondents still have concern about the security about these services.

Based on the test analysis done it was found that PI, PE, PU and VS plays a very significant role in determining the customer adoption of mobile wallet. Even if consumers find PR and SI as a significant factor as found from the frequency test (table 4.4.2), these variables doesn't play a significant role in determining customer intention to continue using mobile wallet adoption. Perceived cost played a significant role but due to the negative value of Beta, it has to be rejected. So based on the test analysis and the proposed model we found that there will only be four factors which really affect the consumer adoption. The figure below is the research model according to the test analysis done.
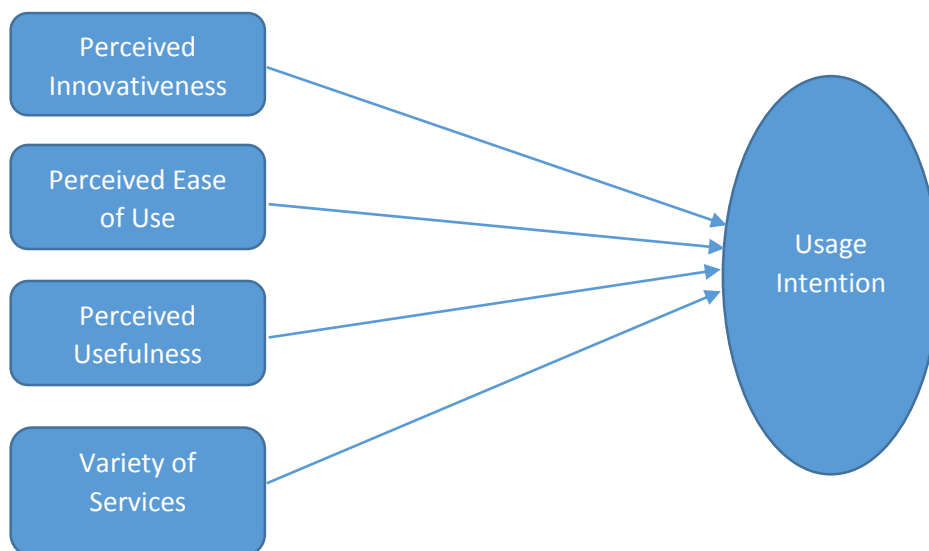
Figure 4.B: Finalized Research Model of Factors affecting Usage Intention of Mobile Wallet

Table 4.3: Regression analysis between independent and dependent Variables

IV	DV	R Square	P value	Beta Value	Null Hypothesis
PI			0.027	0.119	**Rejected**
PE			0.000	0.245	**Rejected**
PU	**UI**	**0.353**	0.031	0.138	**Rejected**
PR			0.101	0.079	**Accepted**
SI			0.307	0.053	**Accepted**
PC			0.006	-0.128	**Rejected**
VS			0.000	0.119	**Rejected**

4.5 TABLES SHOWING SIGNIFICANCE LEVEL OF RESPONDENTS ON DEPENDENT VARIABLES ALONG WITH INDEPENDENT VARIABLES.

Table 4.3.1: T-Test analysis between GENDER and Independent Variables

Independent	Dependent variable	Significant level	Null Hypothesis
GENDER	Personal innovativeness	0.000	Rejected
	Perceived ease of use	0.401	Accepted
	Perceived usefulness	0.245	Accepted
	Perceived risk	0.420	Accepted
	Marketing & social influence	0.998	Accepted
	Perceived cost	0.200	Accepted
	Variety of services	0.565	Accepted
	Usage intention	0.747	Accepted

Table 4.3.2: ANOVA between AGE and Independent Variables

Independent variable	Dependent variable	Significant level	Null Hypothesis
AGE	Personal innovativeness	0.904	Accepted
	Perceived ease of use	0.847	Accepted
	Perceived usefulness	0.362	Accepted
	Perceived risk	0.024	Rejected
	Marketing & social influence	0.580	Accepted
	Perceived cost	0.588	Accepted
	Variety of services	0.079	Accepted
	Usage intention	0.139	Accepted

Table 4.3.3: ANOVA between EDUCATION and Independent Variables

Independent variable	Dependent variable	Significant level	Null Hypothesis
EDUCATION LEVEL	Personal innovativeness	0.331	Accepted
	Perceived ease of use	0.796	Accepted
	Perceived usefulness	0.930	Accepted
	Perceived risk	0.645	Accepted
	Marketing & social influence	0.525	Accepted
	Perceived cost	0.550	Accepted
	Variety of services	0.257	Accepted
	Usage intention	0.561	Accepted

Table 4.3.4: ANOVA between MONTHLY INCOME and Independent Variables

Independent variable	Dependent variable	Significant level	Null Hypothesis
MONTHLY INCOME	Personal innovativeness	0.211	Accepted
	Perceived ease of use	0.554	Accepted
	Perceived usefulness	0.434	Accepted
	Perceived risk	0.200	Accepted
	Marketing & social influence	0.529	Accepted
	Perceived cost	0.071	Accepted
	Variety of services	0.613	Accepted
	Usage intention	0.352	Accepted

Table 4.3.5: T-Test analysis between MOBILE WALLET USER'S and Independent Variables

Independent variable	Dependent variable	Significant level	Null Hypothesis
MOBILE WALLET USER'S	Personal innovativeness	0.000	Rejected
	Perceived ease of use	0.000	Rejected
	Perceived usefulness	0.000	Rejected
	Perceived risk	0.083	Accepted
	Marketing & social influence	0.001	Rejected
	Perceived cost	0.729	Accepted
	Variety of services	0.000	Rejected
	Usage intention	0.005	Rejected

Table 4.3.6: ANOVA between FREQUENCY OF USAGE and Independent Variables

Independent variable	Dependent variable	Significance level	Null Hypothesis
FREQUENCY OF USAGE	Personal innovativeness	0.000	Rejected
	Perceived ease of use	0.000	Rejected
	Perceived usefulness	0.000	Rejected
	Perceived risk	0.004	Rejected
	Marketing & social influence	0.001	Rejected
	Perceived cost	0.296	Accepted
	Variety of services	0.000	Rejected
	Usage intention	0.013	Rejected

4.6 TABLES SHOWING SIGNIFICANCE LEVEL OF RESPONDENTS ON DEPENDENT VARIABLES AND MEAN

Table 4.4.1: Table showing T-test of independent variables.

Pairs	Significance level	Null Hypothesis
PI & PE	.000	Rejected
PI & PU	.073	Accepted
PI & PR	.000	Rejected
PI & SI	.000	Rejected
PI & PC	.000	Rejected
PI & VS	.003	Rejected
PI & UI	.000	Rejected
PE & PU	.000	Rejected
PE & PR	.000	Rejected
PE & SI	.000	Rejected
PE & PC	.000	Rejected
PE & VS	.000	Rejected

PE & UI	.000	Rejected
PU & PR	.000	Rejected
PU & SI	.000	Rejected
PU & PC	.000	Rejected
PU & VS	.000	Rejected
PU & UI	.000	Rejected
PR & SI	.495	Accepted
PR & PC	.000	Rejected
PR & VS	.000	Rejected
PR & UI	.000	Rejected
SI & PC	.000	Rejected
SI & VS	.000	Rejected
SI & UI	.000	Rejected
PC & VS	.000	Rejected
PC & UI	.000	Rejected
VS & UI	.018	Rejected

Where

PI- Personal innovativeness

PE- Perceived ease of use

PU- Perceived usefulness

PR- Perceived risk

SI-Marketing & social influence

PC- Perceived cost

VS- Variety of services

UI- Usage intentions

Table 4.4.2: Table showing the mean values of each independent variables from the responses

Dependent variables	Mean
Personal innovativeness	3.88
Perceived ease of use	4.06
Perceived usefulness	3.95
Perceived risk	3.53
Marketing & social influence	3.50
Perceived cost	3.03
Variety of services	3.75
Usage intentions	3.67

Table 4.4.3: Table showing customer's perspective of other payment services along with mobile wallet services.

Wallet	Customer preference rating	Ease of setup	Security	Ease of payment	Variety of services	Offers & discount
Net banking	3.5	3.31	3.4	3.6	3.46	2.77
Mobile wallet	3.07	3.28	3.02	3.45	3.46	3.34
UPI	2.62	2.53	2.75	2.81	2.55	2.62
Debit & credit cards	3.35	3.16	3.14	3.30	3.07	2.88
BHIM	2.53	2.65	2.66	2.70	2.59	2.46

CHAPTER V

5. Findings and Recommendations

This research paper was conducted to understand the acceptance of mobile wallet services among users and also to find out about the factors that affect consumer decision of adoption to mobile wallet service. Mobile wallet technology adoption has been widely studied around the world. So drawing from that great extent of literature review a model for consumer adoption has been proposed taking in to consideration the factors affecting mobile wallet adoption. These dependent variables are perceived innovativeness, perceived ease of use, perceived usefulness, perceived risk, marketing and social influence, perceived cost, variety of services and usage intention in the context of mobile payment.

Recently with the demonetization exercise carried out by the government, the popularity of mobile wallet has increased and now it depends on how customers intent to continue to use the service. So it is much necessary to have a favorable condition created by all the stakeholders.

Consumers have been facing the issues related with small screen, low bandwidth while trying to make a payment through mobile wallet in the recent past. Recently however, this has changed drastically with the introduction and penetration growth of smartphones with large display screen and with network providers providing high speed 3G and 4G services, this issue has been sorted out for the favor of mobile wallet.

Previous research study in the field of mobile technology adoption (Venkatesh and Davis, 2000; Venkatesh et al., 2003; Schierz et al., 2010; Venkatesh et al., 2012; Yang et al., 2012; Slade et al., 2015) is being supported by this observation. Few factors like friends, family, social media have good influence indecision making of customers. This is because of the credibility of these social factors. As we all know how important word of mouth is for any kind of products promotion. Same is the case here as us all as we tends to agree to our social surroundings.

5.1 Findings:

- It was found that these factors had a positive influence on consumer perspective of mobile wallet adoption.
- The cooperation of stakeholders who are directly or indirectly associated with the mobile service is needed for electronic wallet transition to mobile wallet and thus the success of a wallet service depends on not just the customers but

also the mobile wallet service providers, technology providers, financial institution, and government.

- Mobile wallet success depends on the countries perspective towards technology and how government is pushing towards a digital country.

- It was found from the research study that perceived cost also plays a very important role in influencing the customer adoption of mobile wallet.

- The study observed that perceived ease of use is a very significant factor when it comes to customer's perspective for adoption of mobile wallet. (Shin, 2009; chierz et al., 2010; Kim et al., 2010; Wang and Yi, 2012; Thakur and Srivastava, 2014; Yan and Yang, 2015).

- The money transactions have been made much easier compared to the bank transaction which was previously more common before the introduction of mobile wallet service. So due to this the customer perceive that compared to traditional modes of payment, mobile wallet service is an easier and faster alternative.

- Another factor which had significant influence in customer perspective is marketing and social influence.

- It is understood that customers perspective about the variety of services being provided by mobile wallet service providers have a significant influence on customers intention to adopt mobile wallet (Pagani, 2004; Amoroso and Magnier-Watanabe, 2012; Venkatesh et al., 2012).

- It has been noticed that the adoption also depends on how technology savvy customers are to a new technology.

- From the study it was understood that the customer still have a degree of uncertainty when it comes to sharing of personal information.

- After analysing the data it is been found that Indian customers tends to love offers and discount. So for this reason they tends to use mobile wallet service rather than going for alternative mode of payment (Rapid Campaign Report, 2015; Brooks, 2015).

- The potential of mobile wallet service is huge and with the demonetization exercise carried out by government, the wallet service providers are getting recognition.

5.2 Recommendations:

Over here by studying the dependent variables we will be able to understand the variance in these variables such as the customer's intentions to use the service, the frequency of usage and also the perceived cost and the customer's perspective of mobile wallet services.

Likewise if we consider a country like United States we understand that customers' demands for mobile application and so there is a technology pull in such countries. In such countries investments are made by organizational players if there is reasonable profit. Currently India is going through such a face where there are lot of people ready to invest if the profit is reasonable and so the scope of mobile wallet is increasing with entrance of many new players into the ecosystem.

- By highlighting the factors which are key for the mobile wallet service we will be able to identify the shortcomings in the perspective of potential customers and strategize in such a way as to increase the customer adoption by bringing in new marketing techniques and offers.
- It is also important to emphasize on those construct variables which are important from customers point of view when upgrading the product or while strategizing any marketing strategies.
- The fact that Indian customer's tents to love offers and discount can be utilized by wallet service providers to lure more customer and this is a marketing strategy they have been using to change the customer attitude towards mobile wallet services by providing offers and freebies.
- There are customers who tends to use a technology at the introduction state. Rest is not bothered about a new technology as they are least bothered about that. So if given proper guidance and knowledge about a new technology, it would be helpful in getting more customers.

If the mobile wallet service providers along with the help of government and telecom operators are able to provide a better security and if they are able to maintain that level of trust among the customers, then the perspective of customers towards the service will change. There will be increase the number of customers and also the frequency of usage among the existing customers.

Considering the fact that it was not popular payment service method among customers after the inception of the service, this is a drastic change in customer perspective. Marketer and the service providers along with the technology providers will gain more knowledge about customer's perspective for adoption of mobile wallet and can bring suitable marketing strategy to increase customers and also to retain the already existing ones.

CHAPTER VI

6. Limitations and future scope

The research relied on response data from 315 respondents. So there is chance that the sample may suffer from selection bias. The demographics of the respondents taken for the survey is in disproportionate manner and this might have an influence on the results. This study consider only 8 factors to determine that customer's perspective towards adoption of mobile wallet. There are lot of other constructs too which can be considered and which might give a more focused perspective about customers behavior towards adoption of mobile wallet. These factors alone won't determine the success of a mobile wallet service as government along with network providers, smart phone manufacturers and technology provider together can only make this a successful technology and the future of payment transactions.

Although the insights of the perspective of a developing nation was provided by the study, the extend of influence these structural, cultural and demographics differences will do to the mobile wallet adoption can be only brought out by comparison with other developing nations. Also to get a comparative study of where India stands among other developing countries when it comes to mobile wallet scenario. Thus research in the future can concentrate on this direction. Most of the data was collected from teir-1 cities and data from only a few teir-2 cities were collected. Therefore the perspective of people in these cities would have been included and rest would have been ignored. Studying the insight of these people would give a better insight. As mobile wallet is gaining momentum day by day, the mobile wallet service operators can use this as an opportunity to reach out to a larger population to gain competitive advantage. For achieving the broad objective of our government of financial inclusion through "Digital India" this mobile wallet service can be helpful. For future work the limitations of this research paper could be dealt. The possible direction of future study is diverse. Although a brief research study to examine and compare the factors affecting customer's satisfaction across different channels were studied. A detailed study will be helpful in making better strategies because of the difference in technology, environment, devices and customer perceptions. So it is important to gauge and understand the varying needs of the customer as it will help the bankers respond better to the expectations of the customers.

ANNEXURE

A STUDY ON CUSTOMER ADOPTION OF MOBILE WALLET

1. Gender *

o Male

o Female

2. Which category describes your age? *

o 18-25

o 26-34

o 35-59

o 60 or above

3. Educational level

o School

o College

o Working professional

o House wife

o Entrepreneur

o Self employed

4. Monthly Income *

o Less than 5k

o Between 5 and 15k

o Between 15 and 25k

o More than 25k

5. Do you use Mobile Wallet Services? *

o Yes

o No

6. How often do you use Mobile wallet services?

o Everyday

o 3-4 times/week

o Once every week

o 1-2 times /month

o Less than once/month

7. I am the first person to try new technology when it becomes available in market *

o Strongly agree

o   Agree

o   Neutral

o   Disagree

o   Strongly disagree

8. How confident are you in your ability to understand and navigate the technology and features of your mobile phone? *

o   Very confident

o   Somewhat confident

o   Not confident

9. Would you like to use the Mobile Wallet service when it is widely available in India? *

o   Very likely

o   Likely

o   Neutral

o   Unlikely

o   Very unlikely

10. It is better to experiment with mobile wallet before adopting it. *

o   Strongly agree

o   Agree

o   Neutral

o   Disagree

o   Strongly disagree

11. Device compatibility and ease of wallet set-up is one reason to use mobile wallet *

o   Strongly agree

o   Agree

o   Neutral

o   Disagree

o   Strongly disagree

12. It is easier to make payment using mobile wallet? *

o   Strongly agree

o   Agree

o   Neutral

o   Disagree

o Strongly disagree

13. Mobile wallet can be used to do banking any time/anywhere is one reason to use it? *

o Strongly agree

o Agree

o Neutral

o Disagree

o Strongly disagree

14. Banking through the mobile wallet saves a lot of time? *

o Strongly agree

o Agree

o Neutral

o Disagree

o Strongly disagree

15. Clear, simple, precise and understandable information helps me to perform mobile wallet transactions easily? *

o Strongly agree

o Agree

o Neutral

o Disagree

o Strongly disagree

16. Do you believe that mobile banking will be of benefit to you? *

o Strongly agree

o Agree

o Neutral

o Disagree

o Strongly disagree

17. Do you believe that use of mobile banking would help improve you in conducting banking transactions? *

o Strongly agree

o Agree

o Neutral

o Disagree

o Strongly disagree

18. Mobile Wallet can be an alternative of choice payment *

o Strongly agree

o Agree

o Neutral

o Disagree

o Strongly disagree

19. Mobile Wallet can substitute the original payment methods *

o Strongly agree

o Agree

o Neutral

o Disagree

o Strongly disagree

20. Mobile Wallet can support the original payment methods *

o Strongly agree

o Agree

o Neutral

o Disagree

o Strongly disagree

21. I believe smart phone is not a secure system to save my credit cards and personal information on it. *

o Strongly disagree

o Disagree

o Neutral

o Agree

o Strongly agree

22. Concern that phone company and network provider may be able to access the customer's information? *

o Strongly agree

o Agree

o Neutral

o Disagree

o Strongly disagree

23. Possibility of information theft during wireless communication *

o Strongly agree

o Agree

o Neutral

o Disagree

o Strongly disagree

24. If smartphone is stolen, there would be temporary loss of use of the mobile wallet functionality *

o Strongly agree

o Agree

o Neutral

o Disagree

o Strongly disagree

25. Someone using my phone without permission can access my account? *

o Strongly agree

o Agree

o Neutral

o Disagree

o Strongly disagree

26. My trust in Mobile Wallet services is not as strong as compared to trust in offline services provided by the bank? *

o Strongly agree

o Agree

o Neutral

o Disagree

o Strongly disagree

27. How safe do you believe people personal information is when they use a mobile phone to pay for a purchase at a store? *

o Very safe

o Somewhat safe

o Don't know

o Somewhat unsafe

o Very unsafe

28. I started using Mobile wallet as most of my friends and colleagues were also using it *

o Strongly agree

o Agree

o Neutral

o Disagree

o Strongly disagree

29. I started using mobile wallet as my friend suggested me to use *

o Strongly agree

o Agree

o Neutral

o Disagree

o Strongly disagree

30. How likely it is that you will recommend mobile wallet to others? *

o Very unlikely

o Somewhat unlikely

o Neutral

o Somewhat likely

o Very likely

31. Where did you learn about Mobile Wallet? *

o Bank Pamphlet/fliers

o Bank Website

o TV advertisement

o Newspaper/Magazine

o Friends/Family

o Internet

o Social media

o Other:

32. What Mobile Wallet service have you used? *

o Paytm

o SBI's Buddy

o Freecharge

o Google wallet

o HDFC Bank's Chillr

o ICICI Bank's Pockets PayPal

o PayU money

o Citrus pay

o Oxygen

o Other

33. Which of the following mobile wallet service have you seen an advertisement of in the last 1 month? *

o Paytm

o SBI's Buddy Freecharge

o Google wallet

o HDFC Bank's Chillr

o ICICI Bank's Pockets

o Paypal

o PayU money

o Citrus pay

o Oxygen

o None

34. The transaction fee, service fee would be high for transaction done through mobile wallet *

o Strongly agree

o Agree

o Neutral

o Disagree

o Strongly disagree

35. The Depth and variety of mobile payment enablement like airtime top-ups, payments at restaurants, online shopping etc. is the reason why I use mobile wallet? *

o Strongly agree

o Agree

o Neutral

o Disagree

o Strongly disagree

36. Support for multiple card types from multiples institution is the reason why I use mobile wallet? *

o Strongly agree

o Agree

o Neutral

- o   Disagree
- o   Strongly disagree

37. Integrated offers, coupons, discounts, location based alerts is the reason why I use mobile wallet? *

- o   Strongly agree
- o   Agree
- o   Neutral
- o   Disagree
- o   Strongly disagree

38. Unique, integrated and customized services are important in the adoption of Mobile Wallet Services?

- o   Strongly agree
- o   Agree
- o   Neutral
- o   Disagree
- o   Strongly disagree

39. Would you use mobile wallet if you could get more information about it? *

- o   Very likely
- o   Somewhat likely
- o   Neutral
- o   Somewhat unlikely
- o   Unlikely

40. I am unlikely to continue using mobile wallet due to security issues? *

- o   Strongly agree
- o   Agree
- o   Neutral
- o   Disagree
- o   Strongly disagree

41. How do you rate the mobile wallet services that you have used? *

- o   Very unsatisfied
- o   Unsatisfied
- o   Neutral
- o   Satisfied
- o   Very satisfied

42. Do you see yourself continue using mobile wallet for future transaction needs? *

o Very likely

o Likely

o Neutral

o Unlikely

o Very unlikely

43. Do you see yourself using Mobile wallet in the near future? *

o Very likely

o Likely

o Neutral

o Unlikely

o Very unlikely

44. With the introduction of BHIM and UPI, rate the following payment gateways in the order of preference (1- least preferred & 5- most preferred) *

SL.NO	Banking services	RATING				
1.	Mobile Wallet	1	2	3	4	5
2.	UPI	1	2	3	4	5
3.	Internet Banking	1	2	3	4	5
4.	BHIM	1	2	3	4	5
5.	Credit and Debit cards	1	2	3	4	5

45. Rate the following payment methods in terms of factors given below (1- least preferred & 5- most preferred)

SL.NO	Internet banking	RATING				
1.	Ease of Setup	1	2	3	4	5
2.	Security	1	2	3	4	5
3.	Ease of Payment	1	2	3	4	5
4.	Variety of Service	1	2	3	4	5
5.	Offers and Discounts	1	2	3	4	5

SL.NO	Mobile Wallet	RATING				
1.	Ease of Setup	1	2	3	4	5
2.	Security	1	2	3	4	5
3.	Ease of Payment	1	2	3	4	5
4.	Variety of Service	1	2	3	4	5
5.	Offers and Discounts	1	2	3	4	5

SL.NO	UPI	RATING				
1.	Ease of Setup	1	2	3	4	5
2.	Security	1	2	3	4	5
3.	Ease of Payment	1	2	3	4	5
4.	Variety of Service	1	2	3	4	5
5.	Offers and Discounts	1	2	3	4	5

SL.NO	Debit & Credit cards	RATING				
1.	Ease of Setup	1	2	3	4	5
2.	Security	1	2	3	4	5
3.	Ease of Payment	1	2	3	4	5
4.	Variety of Service	1	2	3	4	5
5.	Offers and Discounts	1	2	3	4	5

SL.NO	BHIM	RATING				
1.	Ease of Setup	1	2	3	4	5
2.	Security	1	2	3	4	5
3.	Ease of Payment	1	2	3	4	5
4.	Variety of Service	1	2	3	4	5
5.	Offers and Discounts	1	2	3	4	5

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