CHAPTER-5
DISCUSSIONS, INTERPRETATIONS AND SUGGESTIONS

This chapter includes objective wise discussion on the explorations of the study done by the researcher. This chapter also concludes by enunciating the suggestions that emerge from the conclusion drawn by way of developing a model of determinants of adoption behaviour of Indian customers towards mobile banking services and finally identifies the scope for future research in this area.

5.1 Findings related to first objective of tracing out the developments in the adoption of Mobile banking Services in Indian Banks.

The objective was achieved through primary data collection and secondary source of information. Following are the conclusion drawn from the analysis of adoption of Mobile Banking of Selected banks in India.

1. The volume of Mobile banking transactions has a growth rate of 0.06 i.e., approx. 6 per cent per month and the value of Mobile banking transactions has a growth rate of 0.11 i.e., approx. 11 per cent per month. So, the growth rate of value is much higher than the volume of Mobile banking transactions in the top selected banks in India. This indicates that volume & value of the transactions has increasing as people believe in the benefits provided by mobile banking service & becoming more mobile savvy.

2. The volume of Mobile banking transactions of Public sector Banks has a growth rate of 0.05 i.e., approx. 5 per cent per month and the value of Mobile banking transactions has a growth rate of 0.10 i.e., approx. 10 per cent per month. So, the growth rate of value is much higher than the volume of Mobile banking transactions in the top selected Public banks in India. This indicates that people are doing a transaction of heavy amount as compared to previous transactions now as their income has increased manifold.

3. The volume of Mobile banking transactions of Private sector Banks has a growth rate of 0.09 per cent per month and the value of Mobile banking transactions has a growth rate of 0.12 per cent per month. So, the growth rate of value is much higher than the volume of Mobile banking transactions in the top selected Private Banks in India. The reason behind this is that the people are having more amounts to transact than before. In less number of transactions they are doing it with high amounts.
4. The volume of Mobile banking transactions of Private sector Banks has a growth rate of 0.09 i.e., approx. 9 per cent per month and the volume of Mobile banking transactions of Public sector Banks has a growth rate of 0.05 i.e., approx. 5 per cent per month. So, Private Sector banks are performing better than Public sector banks in the volume of Mobile banking transactions. The reason behind that is this customers are having more interpersonal influence i.e., recommendation by private bank personnel in comparison to public sector banks, better services.

5. The value of Mobile banking transactions of Private sector Banks has a growth rate of 0.12 i.e., approx. 12 per cent per month and the value of Mobile banking transactions of Public sector Banks has a growth rate of 0.10 i.e., approx. 10 per cent per month. So, Private Sector banks are performing better than Public sector banks in the value of Mobile banking transactions. This indicates that the customers of private banks are adopting mobile banking more to transact because of security measures, superior management, better infrastructure and recommendations of bank personnel.

6. It is concluded that among all the top banks in India, State Bank of India (A Public sector Bank) has acted as a leading bank in the adoption of Mobile banking followed by ICICI Bank Ltd (A Private sector Bank), Axis Bank Ltd. (A Private sector Bank), Indusind bank (A Private sector Bank) and Kotak Mahindra Bank Ltd. (A Private sector Bank). Out of 5 banks in adoption of Mobile Banking four banks are from private sector. Hence can be concluded that private banks are performing better than Public banks in Adoption of Mobile Banking because private banks are doing more efforts to get it in use by customers and even giving training to use the service. Better Infrastructural facility, Immediate solution to the queries of customers, superior management and better performance in comparison to public sector banks which are less profitable, more prone to political pressure, less advertisement & training to customers.

5.2 Recommendations to make the efforts to develop mobile banking services in India more fruitful & robust

On the basis of above findings the suggestions are:

1. Financial & Infrastructural support to public sector banks by local authorities-
The public sector banks should be supported by the local agencies to make their endeavour a success. This would provide ease to the people who face problems in using mobile banking services.
2. **Public sector banks initiatives towards educating the customers about the mobile banking benefits**-

The public sector banks should work towards educating the customers about the benefits of mobile banking services and motivating the customers to increase the usage of mobile banking. Mobile banking awareness will pave the way to increase the adoption of mobile banking in India. If more and more customers will be aware and convinced regarding the services, the volume & value of transactions will improve automatically.

3. **Recognizing and rewarding the mobile banking customers**-

As revealed in the study the public sector banks have failed to achieve the desired level of customers because of the noncooperation of Indian customers to some extent. The company can improve the adoption rate through proper motivating its customers. One such strategy can be of rewarding and developing a recognition mechanism for those who are availing mobile banking services. This will help in motivating the customers to keep intact with the banks in availing the services. It may include cash coupons, certificates, bonus points and similar other system.

4. **Greater focus on research towards mobile banking services to make it a best practice**-

The financial and infrastructural help from the government should be given to public sector banks to give impetus to innovation governed by the motives of increasing the usage of mobile banking services. Government and RBI support to public sector banks will go a long way to enhance their initiative and adoption of mobile banking services in its true sense.

5.3 **Findings related to second objective of studying the Customers’ level of awareness (and their sources of information) about Mobile banking services in India.**

The objective was achieved through primary data collection. The findings reveal:

1. Out of total of 590 respondents 22.2 per cent of respondents are not at all aware about the Mobile Banking. Only 77.8 per cent of the respondents are aware about the Mobile Banking which means that majority of the customers in the sample claim that they have awareness about such products in general. This indicates that still 22.3% people are having no information about mobile banking. It may be due to the negligence on the part of banks. So, no question arises to measure awareness level of these 22.2 per cent i.e. 131 respondents. Awareness level was measured for the 459 respondents.

2. It is clear that among 459 aware respondents, 166 (36.2 per cent) aware about the Mobile banking but not using it while 293 respondents (63.8 per cent) are aware as well as using
the Mobile Banking. This indicates that 36.2% after being aware because of security, risk associated people are still not making their mind to move from cognitive state to conative state.

3. 64.6 percent of the respondents agreed that they are aware about all the Mobile banking services. Only 3.7 percent respondents disagreed on their awareness about all the Mobile banking services. Nobody in the respondents is disagreeing and strongly disagreed on awareness about all the Mobile banking services. This indicates the majority of the aware people are aware about all the aspects, pros & cons of the service and they are well informed.

4. 68.8 percent of the respondents agreed that they are aware how to use mobile banking services. Only 5.2 percent respondents are neutral on their awareness about how to use mobile banking services. Nobody in the respondents is disagreeing and 0.9 per cent is strongly disagreed on awareness about how to use mobile banking services. This indicates majority of the aware people even know how to apply this service practically may be because of training provided by the banks or due to electronic media.

5. 70.8 percent of the respondents agreed that they check for credibility & security provided before using mobile banking services. Only 26.4 percent respondents are neutral that they check for credibility & security provided before using mobile banking services. 0.7 per cent is strongly disagreed on that they check for credibility & security provided before using mobile banking services. It indicates maximum respondents are concern about credibility & security feature of mobile banking because of sensitive matter of financial transactions.

6. 77.1 percent of the respondents agreed that they check for the perceived risk before using Mobile banking services. 46.8 percent respondents are neutral that they check for the perceived risk before using Mobile banking services. 7.2 per cent are strongly disagreed on that they check for the perceived risk before using Mobile banking services. It indicates that people check for the risk that mobile banking service carries because they want to know the risk magnitude in doing financial transactions by it.

7. 73.4 percent of the respondents agreed that they check for perceived service cost before using mobile banking services. 35.3 percent respondents are neutral that they check for perceived service cost before using mobile banking services. 4.4 per cent are strongly disagreed on that they check for perceived service cost before using mobile banking services. It indicates people are interested in knowing that how much a new innovation will cost them because cost have to compare with the value.
8. 76 percent of the respondents agreed that they check for reliability in transactions before using mobile banking services. 46.4 percent respondents are neutral that they check for reliability in transactions before using mobile banking services. 8.1 per cent are strongly disagreed on that they check for reliability in transactions before using mobile banking services. It indicates that aware people are concern about how much mobile banking service is reliable for its customers because safety is their main concern and rest will bother for it when they will practically apply this service.

9. 74.3 percent of the respondents agreed that they check for compatibility before using mobile banking services. 37.3 percent respondents are neutral that they check for compatibility before using mobile banking services. 2.2 per cent are strongly disagreed on that they check for compatibility before using mobile banking services. It indicates that aware people are concern about the consistency of mobile banking with their life style and values or whether it is matching up the needs of the day or because increase in the standard of living is essential to adapt the change and rest will bother for it when they will practically apply this service.

10. 78.2 percent of the respondents agreed that they check for customer value before using Mobile banking services. 51.2 percent respondents are neutral that they check for customer value before using Mobile banking services. 5.7 per cent are strongly disagreed on that they check for customer value before using Mobile banking services. It indicates that aware people are concern about the value mobile banking carry for its customers because the relevance it carries, benefits providing is a major concern and rest will bother for it when they will practically apply this service.

11. Finally awareness level across all demographic variables is also studied. First of all awareness level with gender is studied. The results of which reveals that 197 males i.e., 42.91% and 262 females i.e., 57.08% are aware about mobile banking services in the total of 459 respondents. It is found that no association exits between awareness and gender of respondents. Here, awareness level of Female respondents is more than that of Male respondents. The reason for this finding is that men rely on credit and invest more than women do, while women are bigger fans of mobile banking and pay more bank fees, According to a recent survey by TD Bank. While it’s widely known that men, on average, earn more than women, it turns out there’s also a gender gap in banking behaviour (Laura Shin). Here are some of the differences, according to TD’s 2014 Bank Checking Experience Index: Women make about twice as many checking account transactions through mobile banking as men do — two checks a month vs. one. Seventy percent of
women rate their bank very good or excellent in terms of its mobile banking features compared to just 62% of men, and they’re also happier with their remote check depositing service.

12. Awareness level corresponding with family income was studied out further. The results reveals that 113 respondents (24.6%) comprising of monthly family income less than rs. 20000, 167 respondents (36.38%) comprising of monthly family income rs. 20000- rs. 40000, 179 respondents (38.99%) comprising of monthly family income above rs. 40000 are aware about mobile banking services in 459 respondents. The results reveals that there exits an association between family income and awareness of respondents. Here, awareness level of the respondents having income less than Rs. 20000 is more than that of respondents in other categories. The reason behind the finding is that these people go to the bank directly for each and every activity and bank clerks make them aware even provides them the training of mobile banking.

13. Awareness level corresponding with marital status was studied out further. The results reveals 205 respondents (44.66%) who are married and 254 respondents (55.33%) who are unmarried out of 459 aware respondents are aware about mobile banking services. The results reveals that there exits an association between marital status and awareness of respondents. Here, awareness level of Unmarried respondents is more than that of Married respondents. The reason behind this is that unmarried people having more techno savvy or mobile savvy due to more time, less mental pressure due to less responsibilities.

14. Awareness level corresponding with occupation was studied out further. The results reveals that 28 (6.1%) housewives, 74 respondents(16.122%) who are businessman and self employed, 51 respondents (11.11%) who are government employee, 126 respondents (27.45%) who are private employee, 180 students (39.21%) out of 459 aware respondents are aware about mobile banking services. The results reveals that there exits an association between occupation level and awareness of respondents. Here, awareness level of the Business & self-employed respondents is more than that of respondents in other categories. The reason behind this is that business class people are business mind people. They want to save the time, techno savvy and very calculative in terms of profit & loss.

15. Awareness level corresponding with educational qualification was studied out further. The results reveals that 58 respondents (12.63%) studied up to 12th, 205 respondents (44.66%) having graduation qualification, 196 respondents (42.70%) having post graduation and above qualification are aware about mobile banking services. The results
reveals that there exits an association between educational qualification and awareness of respondents. Here, awareness level of the respondents having graduation qualification is more than that of respondents in other categories. The reason behind this is that they have the zest for learning new things, mobile savy, time savers, having more love for knowing about new innovations.

16. Here, awareness level of the respondents who are the customer of Public sector Banks and the customer of Private sector Banks is studied out. 207 customers (45.09%) of private sector bank and 252 customers (54.90%) of public sector banks are aware about mobile banking services. Here, awareness level of the respondents who are the customer of Private sector Banks is more than that of respondents who are the customer of Public sector Banks. The reason behind this is that private bank employees are doing great efforts in educating the customers. They are even providing them the training to use mobile banking. Their messaging service is good.

17. Awareness level of the respondents of different categories of age was studied out. 80 respondents less than age of 20 years(17.42%), 330 respondents(71.89%) in between of the age of 20-40 years, 49 respondents(10.67%) more than 40 years out of 459 respondents are aware about mobile banking services. The results reveals that there exits an association between age and awareness of respondents. Here, awareness level of the respondents of age between 20-40 years is more than that of respondents in other categories of age. A study done in finland by (Suoranta M. Mattila M.), 2004 also supported that maximum users of mobile banking are of the age of 24-34 years. The possible reasons are this is the age group of young people and they are more techno savy, maximum internet users and having keen interest to learn the new knowledge than other age groups.

18. Regarding the source of information about the mobile banking services, the responses reveals Print Media(89.3%) is the main source from where respondents got aware about the Mobile banking followed by Colleagues(79.0%) and bank clerks(77.7%) being 2nd and 3rd main source for creating awareness about the Mobile Banking. Then from electronic media (63.3%), family (59.0%), and friends (47.6%) and from other sources (5.9%) only. The reason behind this is that banks are making efforts and circulating more n more pamphlets, giving advertisements in printed form. Although the level of awareness has been studied earlier but there is no supportive study as to the sources of information, therefore, it serves as an important clue to the banks to develop their information strategies.
5.4 Recommendations to improve the Customers’ level of awareness and increasing the sources of information for Mobile banking services in India.

On the basis of above findings the suggestions are:

1. **Emphasis on Print Media**-
   Banks should invest more on print media advertising as it is the most effective and informative source as per the results of the study. It has the benefits of larger reach in terms of customers and side by side it saves the cost of promotion.

2. **Meticulous informative and awareness campaigns through Media and educational institutes**-
   Informative and awareness campaigns can prove to be helpful in making mobile banking a success. The level of awareness among the customers can be improved and brought to hundreded percent with meticulous and thoroughly efforts by the companies in which media and education can play an important role.

3. **Strengthening the role of Bank clerks for enhancing the Scrupulous information and awareness**-
   Precise Information and awareness can be enhanced by strengthening the role of bank clerks who are actually in the direct link to the customers. Bank clerks should make thorough efforts to educate the customers and making them understand the importance and benefits of Mobile banking services. Advertisements, Pamphlets, Demo fares, and Campaigning etc. should be organized often so that the information to the customer is up to date and it may create interest among them. S.Samudra and Phadtare (2012) claimed that the footfall at ATM centres is likely to be very high so the campaigns must be carried out at these locations to attract more customers towards these services.

4. **Prominence role of electronic Media**-
   Banks should create awareness through the use of electronic media advertising as it is the effectual and edifying source. As per the results of the study i.e., 63.3% customers are getting information about mobile banking through it. It has the benefits of larger reach in terms of customers and side by side it saves the cost of promotion.

5. **Escalating the skill of customers for understanding the usage and benefits of mobile banking services**-
   Customers need to develop the skill for understanding the usage and benefits of mobile banking services as they are incredulous about being able to use and understand the mobile banking services. They are ignorant about credibility and security, perceived risk, service cost, reliability and compatibility. They are not aware about which features should
be checked to adopt mobile banking services in true sense. So the education literature and information sources should focus on insertion of related subject matter in near future.

5.5 Findings related to third objective of measuring the Customers’ level of willingness to use Mobile banking services and the factors affecting willingness to use mobile banking services.

The level of Willingness was measured through statements on five point likert scale. The findings were:-

1) 98 respondents out of 166 respondents i.e., 59.03% respondents who are aware but not using mobile banking services showed their preference towards mobile banking services over other channels of conducting banking transactions. The reason behind this is that these people want them to be technological upgrade & want to save their time.

2) Statement wise analysis on willingness is also done in order to know about the percentage of the respondents in 5 categories named as strongly disagree, Disagree, Neutral, Agree and Strongly Disagree. 76.3 percent of the respondents agreed that they intend to use mobile banking services in near future. Only 5.7 percent respondents disagreed that they intend to use mobile banking services in near future. 0.7 per cent is strongly disagreed that they intend to use mobile banking services in near future. This indicates maximum people are willing to change their intention into practical use because of facilities associated with this service.

3) 74.7 percent of the respondents agreed that it is likely they will use mobile banking services in near future. Only 16.6 percent respondents are neutral that it is likely they will use mobile banking services in near future. 0.4 per cent is strongly disagreed that it is likely they will use mobile banking services in near future. It indicates that still 17% people have not made up their mind that they will use mobile banking in near future because of security constraints and risk issues involved.

4) 81.9 percent of the respondents agreed that they will choose mobile banking services over other channels of conducting banking transactions. Only 24.6 percent respondents are neutral that they will choose mobile banking services over other channels of conducting banking transactions. 0.7 per cent is strongly disagreed on that they will choose mobile banking services over other channels of conducting banking transactions. This indicates that people are thinking of getting benefitted by the use of mobile banking than other channels that’s why they are showing their intention to choose mobile banking.
5) 60.6 percent of the respondents agreed that they will choose mobile banking services only if the service qualities are better or similar than other channels. 20.7 percent respondents are neutral that they will choose mobile banking services only if the service qualities are better or similar than other channels. 1.1 per cent is strongly disagreed on that they will choose mobile banking services only if the service qualities are better or similar than other channels. They were determined to use mobile banking services even if they had to compromise on the quality of the product, which is much lower to the percentage of respondents in the prior statement which truly indicates that although more people are willing to use mobile banking services, they would not do so at the cost of compromising the quality of the services. In India also, despite of awareness and positive attitude towards mobile banking services, customers are not very confident about the quality and therefore do not have trust and believe in mobile banking services.

6) 60.8 percent of the respondents agreed that they like the idea of using mobile banking services. 16.1 percent respondents are neutral that they like the idea of using mobile banking services. 0.7 per cent is strongly disagreed on that they like the idea of using mobile banking services. This information is very crucial and important for the banks as there are still 16.8 percentage customers which can be added if taken care of through proper strategies. This indicates in spite of various limitations people are liking the idea of usage because benefits are more in terms of risk.

7) As far as overall level of willingness is concerned, it was measured by descriptive statistics. An aggregate score for the willingness was used after taking the average of all the statements mentioned above here for each respondent. So, it is revealed from the above table that willingness level of the respondents who are aware of the mobile banking and not using it is 3.7000. This value is moderate. The reason behind this moderate value could be their moderate level of awareness i.e. 3.1370. These respondents are aware but not exactly aware about all the aspects of mobile banking. It is important to note here that bank clerks are the 3rd main source of awareness about the respondents. So, bank should undertake more efforts to create awareness about the mobile banking on their part. Print Media can only help them to have understanding about the concept of mobile banking. It is the internal environment of banks that can give practical knowledge of mobile banking and induce the customers to adopt mobile banking. Here, the level of willingness is more than the level of awareness indicating that there is negligence on part of promotion of practical knowledge of mobile banking among customers.
8) As far as motives and factors affecting the willingness to use mobile banking services are concerned, weighted average was used. It revealed various factors i.e., perceived usefulness (Zhou, 2011) & ease of use, perceived credibility & security (Laforet and Li, 2005), perceived compatibility (Suoranta and Mattila, 2004), perceived service cost, bank efforts, knowledge based trust & belief (Zhou, 2011), perceived customer value (Ho et al., 2008), technology perception, reference group influence, personal innovativeness, perceived risk & attitude that affect the willingness of using MBS. The above question is of ranking, first of all frequency is calculated for each option provided to the respondents. The number of respondents gave different-rank to different factor. In order to find out which factor scores highest on ranking, weights were given to the rank. After specifying weights for all each rank, the frequency of each rank in each factor is multiplied with their respective weights. After doing so, the total points earned by Motives/factors are calculated.

From all the motives that promote the respondents willingness to use the Mobile Banking, **Credibility & security** is ranked as 1\textsuperscript{st}, **Compatibility** is ranked as 2\textsuperscript{nd} and **Trust & belief** is ranked as 3\textsuperscript{rd}. **Bank efforts** are ranked on 8\textsuperscript{th} position and **Cost effectiveness** is ranked on 10\textsuperscript{th} position. So, it is clear that people chose and willing to chose the Mobile banking because of the **Credibility & security, Compatibility and Trust & belief** provided by the Mobile Banking. Bank efforts and cost effectiveness are the least motivators for them to choose Mobile Banking.

5.6 Findings related to fourth objective of identifying factors determining the adoption behaviour of Indian customers towards the use of Mobile banking services.

At last the model of factors affecting adoption behaviour was developed by using structure equation modelling and analysed to achieve the objectives of identifying factors determining the adoption behaviour of Indian customers towards MBS.

The model analysis reveals that in continuation to the earlier model of factors affecting willingness for adopting MBS; all previous model factors were significant in explaining adoption behaviour with the mediating effect of willingness to adopt mobile banking services. Many of the similar models have been developed by scholars from various countries where different factors were studied to have an impact on intention to use mobile banking services which in turn had an impact on mobile banking adoption behaviour.
Laforêt and Li (2005) indicated that “security was the most important factor that motivates adoption”. Amin et al. (2008) examined the factors that determine intention to use mobile banking among BIM Bank's customers. They found that “perceived usefulness, perceived ease of use, perceived credibility, the amount of information on mobile banking and normative pressure are significant factors in explaining the acceptance of mobile banking”. In the same vein, Koenig-Lewis et al. (2010) indicated that “compatibility, perceived usefulness and risk are significant indicators for the adoption of m-banking services”. Riquelme and Rios (2010) found that “Usefulness, social norms and social risk are factors that influence the intention to adopt mobile banking services the most. They also indicated that ease of use and social norms have a stronger influence on female respondents than male, whereas relative advantage has a stronger effect on perception of usefulness on male respondents”. George (2002) found “a strong positive relationship between an individual’s attitude towards purchasing online and the user’s behavioural intention”. Gribbins et al. (2003) studied “the acceptance of wireless technologies by users”. Also, Puschel et al. (2010) found that “attitude significantly affects intention to adopt mobile banking. They demonstrated support for the relationship between attitudes toward using mobile commerce/ banking and behavioural intention”. Bhattacherjee (2000) found “a positive impact of subjective norm on intention to use electronic brokerages service”. Venkatesh and Davis (2000) established “direct link between subjective norm and intention to use in a study pooling results across four longitudinal field studies”. In addition, Liao et al. (2007) developed “an integrated model to predict individual’s use of online services based on the concepts of the expectation disconfirmation model and the TPB. The findings showed that subjective norm is a strong determinant of behavioural intention towards e-service”. Empirical research also suggests “that subjective norm positively affect e-payment as well as internet banking adoption” (Gu et al., 2009; Kleijnen et al., 2004; Lin, et al., 2009; Chan and Lu, 2004; Puschel et al., 2010). There is extensive research in the information system community that provides evidence of “the significant effect of perceived usefulness on both attitude usage intention” (Venkatesh & Morris, 2000; Chiu et al., 2005; Luarn & Lin, 2005; Hanafizadeh et al., 2012). The ultimate reason people exploit mobile banking systems is that they find them useful. According to Tan and Teo (2000), “PU is an important factor in determining the adoption of innovations”. There has been extensive research indicating” a strong influence of perceived ease of use of a technology and its adoption” (Luarnand Lin, 2005; Wang and Liao, 2007; Riquelme and Rios, 2010). Perceived ease of use affects attitude towards the adoption of mobile banking because it uses a highly complex system for performing banking transactions via a small
device. Kim et al. (2009) proved that “when M-banking is perceived as associated with higher risk compared to ordinary banking: the primary trust of the individual in services is expressed as the necessary factor for using M-banking. Trust to mobile banking affects attitude towards the adoption of Mobile banking”. Previous studies have revealed “that perceived costs can be a large barrier in adoption of M-banking” (Dahlberg et al., 2008). Wu and Wang (2005) found out that “costs have a significant negative effect on attitude and behavioural inclination for using cell-phone for business”. On the other hand, low costs can encourage customers to use e-banking. Wessels and Drennan (2010), in their study on “the effect of cost on usage intention concluded that there is a negative relationship between perceived cost and intention to use M-banking”. “The perceived credibility that people have in the system, to securely conclude their transactions and maintain the privacy of their personal information, affects their voluntary acceptance of mobile banking” (Luarn and Lin, 2005). Recent studies in the area of Mobile banking have revealed that “perceived credibility has a positive significant relationship with the attitude and adoption to Mobile banking” (Hanafizadeh et al., 2012; Koenig-Lewis et al, 2010; Luarn& Lin, 2005). Wang et al. (2003) concluded that “there is a positive significant relationship between perceived credibility and online banking services”. “Compatibility is one of the most important factors in determining the attitude of the customers toward electronic banking services and their use”, (Wu and Wang, 2005). Rogers (1995) generally defined “compatibility, as how an innovation is assumed to be consistent with socio cultural values and beliefs, experiences, as well as the needs of potential adopters”. “Compatibility is also essential to innovation since conformance to a user’s lifestyle can significantly increase the rate of adoption” (Rogers, 2003). Incompatibility between an innovation and existing products/services may inhibit an adopter’s acceptance. Related research demonstrated that “compatibility is a significant antecedent in determining consumer attitudes towards adopting internet banking” (Ndubisi and Sinti, 2006), as well as “towards the adoption of virtual store” (Chen et al., 2004), “mobile payment” (Chen, 2008), and “mobile banking practices” (Koenig-Lewis et al., 2010). “Research on mobile transaction services reveals that over two-third of the financial transaction services meeting the needs of clients fail because traditional channels do not offer the ubiquity provided by a mobile channel”(Hourahine and Howard, 2004). Accordingly, it has been found that “high compatibility leads to an increased chance of technology adoption” (Wu and Wang, 2005) and “raises the question as to whether this extends to M-banking. Numerous recent studies have also provided supporting evidence” (Zitter etal., 2009; Puschel et al, 2010; Koenig-Lewis et al. 2010;Hanafizadeh et al., 2012; Chen, 2013).
Therefore, the high level of technological compatibility integrated with the individuals needs and wants would definitely increase the possibility of positive attitude towards MBS and its adoption.

But through this study an attempt was made to develop a comprehensive model which considers all the factors which were previously studied in fractions n one way or the others.

1. It can be concluded from the study that **Perceived Compatibility (PCOM)** has a significant and positive impact on the adoption behaviour of customers towards Mobile Banking. Almost 45.8% variations in adoption behaviour are explained by the perceived compatibility. In the other words, it can be said that adoption behaviour is influenced by the perceived compatibility and customers are adopting mobile banking because they think that it suits their life style as revealed in the study done in 2011 by (Hsiu Fen lin) in the research paper “An empirical Investigation of M.B adoption Attributes & Knowledge Based trust” and suggested by (Morna Sy Lee, Peter MC Goldrick, Kathleen A Keeling, Joanne Doherty) in his study in 2003 in his article Using ZMET to explore Barriers to the adoption of 3G M.B services., in the study done in 2010 by (Nicole Kieong . Lewis, Adrain Palmer, Alexander Moll) in his study “Predicting the young customers take up of M.B.S. Pummina s. Sangle, Preety Awasti in 2011 also revealed that compatibility has positive impact on adoption behaviour in his study “Consumers’ expectations from Mobile, Crm services- A banking context.” Compatibility is one of the most important factors in determining the attitude of the customers toward electronic banking services and their use (Wu and Wang, 2005). Rogers (1995) generally defined “compatibility” as how an innovation is assumed to be consistent with socio cultural values and beliefs, experiences, as well as the needs of potential adopters. Compatibility is also essential to innovation since conformance to a user’s lifestyle can significantly increase the rate of adoption (Rogers, 2003). Incompatibility between an innovation and existing products/services may inhibit an adopter’s acceptance. Related research demonstrated that compatibility is a significant antecedent in determining consumer attitudes towards adopting internet banking (Ndubisi and Sinti, 2006), as well as towards the adoption of virtual store (Chen et al., 2004), mobile payment (Chen, 2008), and mobile banking practices (Koenig-Lewis et al., 2010). Research on mobile transaction services reveals that over two-third of the financial transaction services meeting the needs of clients fail because traditional channels do not offer the ubiquity provided by a mobile channel(Hourahine and Howard, 2004). Accordingly, it has been found that high
compatibility leads to an increased chance of technology adoption (Wu and Wang, 2005) and raises the question as to whether this extends to M-banking. Numerous recent studies have also provided supporting evidence (Zitter et al., 2009; Puschel et al., 2010; Koenig-Lewis et al. 2010; Hanafizadeh et al., 2012; Chen, 2013). Therefore, the high level of compatibility of a technology with the needs and wants of individuals would increase the possibility of its attitude and adoption. (Kamaal Allil, Mohammed Naved Khan -2016) also supported this result.

2. It can be concluded from the study that Perceived Service Cost (PSC) has a significant and negative impact on the adoption behaviour of customers towards Mobile Banking. Almost 31% variations in adoption behaviour are explained by the perceived service cost. It means consumers think that using the mobile banking is very costly and it has a negative impact on the adoption behaviour of customers towards Mobile Banking. As revealed in the study done by (Janeaya Revels, Dewi, Tojib, Yelena, T Sarenko), 2010 in his article “Understanding consumer intention to use M.B.S. (Lisa Wessels, Judy Drennan0, 2010 also supported that perceived service cost has negative impact on adoption behaviour of mobile banking services in his study “An investigation of consumer acceptance of M.B” Previous studies have revealed that perceived costs can be a large barrier to adoption of M-banking (Dahlberg et al., 2008). Wu and Wang (2005) found out that costs have a significant negative effect on attitude and behavioural inclination for using cell-phone for business. On the other hand low costs can encourage customers to use e-banking. Wessels and Drennan (2010), in their study on the effect of cost on usage intention, concluded that there is a negative relationship between perceived cost and intention to use M-banking. (Kamaal Allil, Mohammed Naved Khan -2016) also supported this result.

3. It can be concluded from the study that Reference Group Influence (RGI) has a significant and positive impact on the adoption behaviour of customers towards Mobile Banking. Almost 13.9% variations in adoption behaviour are explained by the reference group influence. It means customers are adopting the mobile banking under the influence of the others. This finding has been supported by (June Lu, James E. Yao, Chung-Sheng Yu) in 2005 in his study “Personal innovativeness, Social influences and adoption of wireless internet services via mobile technology. Another study also supported that reference group influence has positive impact done by (Crabbe M., Standing c., Standing
S. Karajaluoto in article “An adoption Model for Mobile banking in Ghana”. The study of (Hernan E. Riquelme Rosa E. Rios), 2010 also supported that social norms has positive influence on adoption behaviour specially on females under his study “The moderating effect of Gender in adoption of M.B.” In the study done in Thailand also by (Gary Mortimer, Larry Neale, Syed fazal E-Haran, Benjamin Dunphy), 2015 stated that social influence has positive impact on adoption behaviour in his study “Investigating the factors influencing the adoption of M-banking”. Another study done in India supported that social norms has positive influence on adoption behaviour (Madhurima Deb, Ewuuk Lomo David) 2014, under the name “An empirical examination of customers adoption of Mobile banking in India.” They are all in favour that Social norms positively influence the adoption of mobile banking services in India. Bhattacherjee (2000) found a positive impact of subjective norm on intention to use electronic brokerages service. Venkatesh and Davis (2000) established direct link between subjective norm and intention to use in a study pooling results across four longitudinal field studies. In addition, Liao et al. (2007) developed an integrated model to predict individual’s use of online services based on the concepts of the expectation disconfirmation model and the TPB. The findings showed that subjective norm is a strong determinant of behavioural intention towards e-service. Empirical research also suggests that subjective norm positively affect e-payment as well as internet banking adoption (Gu et al., 2009; Kleijnen et al., 2004; Lin, et al., 2009; Chan and Lu, 2004; Puschel et al., 2010). (Kamaal Allil, Mohammed Naved Khan -2016) also supported this result.

4. It can be concluded from the study that Attitude (AT) has a significant and positive impact on the adoption behaviour of customers towards Mobile Banking. Almost 12.8% variations in adoption behaviour are explained by the attitude. The customers who are having positive attitude towards Mobile Banking are adopting the Mobile Banking. This finding is supported by the study done by (Hsiu Fen Lin), 2011 in his study “An empirical investigation of Mobile banking adoption: The effect of innovation attributes & Knowledge based trust. They suggested that attitude matters a lot when it comes to adopt mobile banking services. Positive attitude influences positively. George (2002) found a strong positive relationship between an individual’s attitude toward purchasing online and the user’s behavioural intention. Gribbins et al. (2003) studied the acceptance of wireless technologies by users. Also, Puschel et al. (2010) found that attitude significantly affects intention to adopt mobile banking. They demonstrated support for the relationship
between attitudes toward using mobile commerce/ banking and behavioural intention. (Kamaal Allil, Mohammed Naved Khan -2016) also supported this result.

5. It can be concluded from the study that **Perceived Reliability (PR)** has a significant and positive impact on the adoption behaviour of customers towards Mobile Banking. Almost 11.6% variations in adoption behaviour are explained by the Perceived Reliability. It means customers believe that process of making transactions through mobile banking is reliable and Privacy & confidentiality is maintained while using mobile banking services. The study which supported the findings was done by (Yang A.S) 2009 by the name “Exploring adoption difficulties in M.B.S”. (Khan M.S., Mahapatra S.S) 2009 conducting a study” Service quality Evaluation in internet banking: An empirical study in India”, it was found that customers feel mobile banking is reliable for conducting the transactions. Another study supported the same done by (G Kim, B.S. Shing H.G Lee), 2009. (Ja chul Gu,Sang chul Lee Yung- Ho shu), 2009 also revealed in his study “Determinants of behavioural intention to use M.B” that customers feel that process of mobile banking is reliable. (Alain Y.C.Kang B.O., Binshan .L.Boon I.T.), 2010, ( Payam Hanfizad eh. Mehdi Behbmdi, Amir Abedini koshksary, Marziyeh Jalilvand Shirkhani, Tabar), 2014 did study in Iran and concluded that they trust and rely on mobile banking under his study “M.B. adoption by Iranian Banks clients”. (Peter Tobbin), 2012, (Nicole Koeing Lewis, Adrian Palmer, Alexander Moll), 2010 and (Khan M.S. Mahapatra), 2009, (Hanafizadeh et al), 2012 also revealed the same findings in their studies in different-different years.

6. Among all of the above 5 significant factors it is pertinent to mention that which factor is most influencing the adoption behaviour of customers towards Mobile Banking. It is cleared that perceived compatibility is the one of the strongest factor influencing the adoption behaviour followed by Perceived Service Cost (PSC), Attitude (ATT), Perceived Reliability (PR) and Reference Group Influence (RGI) respectively.

**5.7 Recommendations to improve willingness to use Mobile banking services and actual adoption behaviour.**

Following recommendations are suggested in Indian scenario by keeping in mind the above findings:
i. **Recognition of the customer and their retention**

An effort should be made by the banks to give recognition to the customers on using the mobile banking services through monetary and non-monetary measures like giving them gold stars, bonus points or cash coupons on every transaction or by convincing the customers on how the use of the services is going to be beneficial for them.

ii. **Improving the credibility and security level**

The first major predictor affecting the willingness to use mobile banking services was perceived credibility and security. It defines the trust ability of a system and its capacity in transferring and doing transactions services. It included variables such as divulgations of personal information, security in requiring and receiving information, security in mobile banking services, freeze of bank website. It is also essential that banks should employ mobile banking services and consumer benefits claims that are specific and meaningful. They must encourage consumer inquisitiveness via consumer social and internet communication network with compelling, interesting and entertaining information about mobile banking services. Banks should do more and more efforts to improve the security level provided to enhance the willingness to adoption.

iii. **Greater focus on compatibility issue**

The second major predictor affecting the willingness to adopt mobile banking services was perceived compatibility. “Compatibility” as how an innovation is assumed to be consistent with socio-cultural values and beliefs, experiences, as well as the needs of potential adopters. It included variables such as fitting to the lifestyle, compatibility of mobile phone with mobile banking technology, enhancement in standard of doing banking transactions. Banks should do more efforts to convince the potential customers that mobile banking services suit or are consistent with every aspect of their life if they adopt it.

iv. **Imbibing trust and belief among the customers for mobile banking services**

Trust & belief for mobile phone, trust for telecommunication operators, improvement over traditional banking and matching of mobile banking services with technological advancement strategy of banks plays an important role to affect the willingness to adopt mobile banking services. Banks should imbibe trust and belief among the customers to improve the usage rate. They should be assured by the banks authorities that they can trust on mobile banking for transactions. Always verify your secret word displayed on the login page before you enter
your password. Provision should be there to check the security code received at phone is as similar as displayed on the websites. Then only the customer can do proceed to enter one time password if the security code matches.

v. **Reduction of service cost**

The next major predictor affecting the adoption was perceived service cost. Perceived Service Cost (PSC) has a significant and negative impact on the adoption behaviour of customers towards Mobile Banking. Almost 31% variations in adoption behaviour are explained by the perceived service cost. It means consumers think that using the mobile banking is very costly and it has a negative impact on the adoption behaviour of customers towards Mobile Banking. It is not always that quality services are expensive but if they actually are the price premium should consider the pockets of the customers i.e. the pricing policy should be that of “What the traffic can bear”. Banks should focus on technology and mechanisms which reduces the overall cost without foregoing the quality of the services. Banks should do more efforts of reducing the cost e.g., it should reduce the amount that it deducts from account on each and every small single transaction via mobile banking or it should be provided without the connection of internet to make it more economical.

vi. **Changing the attitude towards mobile banking services**

It can be concluded from the study that Attitude (ATT) has a significant and positive impact on the adoption behaviour of customers towards Mobile Banking. Almost 12.8% variations in adoption behaviour are explained by the attitude. The customers who are having positive attitude towards Mobile Banking are adopting the Mobile Banking. If Adoption rate has to be improved then banks should change the negative attitude of remaining by improving frequency of communication and improving the compatibility and removing the risk so that customers can build up a positive attitude and better perception towards mobile banking.

vii. **More and more emphasis on reference group influences**

It can be concluded from the study that Reference Group Influence (RGI) has a significant and positive impact on the adoption behaviour of customers towards Mobile Banking. Almost 13.9% variations in adoption behaviour are explained by the reference group influence. It means customers are adopting the mobile banking under the influence of the others. Banks should utilize this opportunity by informing their customers again and again about the
service, making them understand the benefits, by informing them through print media, electronic media frequently to enhance the usage rate.

viii. **Greater focus on customers with Low or no willingness**

71.68% respondents liked the idea of using mobile banking services which reveals a strong intention to use mobile banking services whereas 27 respondents i.e., 16.26% disliked the idea of using mobile banking services and 20 respondents i.e., 12.048% had not made up their mind. This information is very crucial and important for the banks as there are still 28.308 percentage customers which can be added if taken care of through proper strategies. This data provides the further potential for the banks providing mobile banking services. The banks should emphasize more on their customers by developing better communication and advertising strategies. It was found during the studies that Indian customers do not adopt mobile banking services because of credibility and security issues. So banks have to make thorough well planned efforts to improve the faith of the people.

ix. **Improving customer value positioning**

It included variables such as importance of spread of awareness about mobile banking services in India, possibility of information getting, response to queries, getting full information on web site and requests, suggestions, complaints handling by banks. Consumers should be convinced by the banks to understand the purpose behind mobile banking Services. The mental profiling of the service must be done keeping in mind the following points;

4. Banks should design the Mobile banking services to perform as well as or better than alternatives.
5. Banks should promote and deliver the consumer desired value of mobile banking services and target relevant consumer market segment.
6. Banks should broaden the Mainstream appeal by building consumer desired value into mobile banking services.

x. **Improving Risk management mechanism**

Strategies to combat the problem of high risk perception must be taken up by banks on priority basis. Increased usage of rating services must be employed to reduce risk. Besides,
SME specific risk management procedures must be setup to make the business more viable as the risk perception associated with lending to small enterprises is generally very high. Further, the banks would also be required to acquire skill for managing emerging risks resulting from innovations in financial products as well as technological advancements. The availability and ease access to reliable data/information to both banks and regulators/supervisors of the banking system is a key to prudent risk management. Hence strengthening the existing system would be another challenge for the banking industry. More over the recent global financial market turmoil has accentuated the need for further improvement in the transparency and disclosure standards.

xi. **Innovative technology adoption**

The problem of resistance from workforce has largely been neutralized over the years but the primary issue involved with the adoption and rapid integration of technological processes within banks are still related to human resources- the availability of technically skilled resources is scarce. Technology is not among the core competencies of financial institutions which necessitates outsourcing. Banks in India are different from banks in many other countries. They have a very large branch network and varied needs specific to regions and customers. Most off the shelf solutions are not exactly in conformity to the needs of the banks which makes room for large customizations. Besides, a serious concern in implementing complex technologies is protection against frauds and hackings. Security concern slows down technology adoption significantly for the banking industry. A fast pace of development of security systems is imperative to the adoption of large scale innovations in the industry. Another issue is that of business process reengineering which is required after computerization. Failure in carrying out BPR neutralizes the benefits that an institution wishes to accomplish via adoption of a technological process

### 5.8 SCOPE FOR FUTURE RESEARCH

A model of determinants of mobile banking adoption behaviour of Indian customers has been developed successfully in the present study. However it is not the comprehensive study on the subject. There is a scope for future research in some of the areas which have not been extensively investigated in the present research:

1) The present study covers only 12 factors. To generalize the results for mobile banking adoption behaviour, study can be taken up regarding other factors too.
2) As the study has been taken up in NCR area to get a representative sample of the Indian customers due to cosmopolitan outlook the results of the study can further be validated through taking up empirical studies with different samples across the country. Further on the basis of Age, family Income, occupation, educational qualification, marital status; comparative studies may also be done with Indian customers that belong to different groups as they revealed as significant determinants of mobile banking adoption behaviour.

3) Findings of this research are based on snapshot survey data that reduce the ability to reflect the changes in the research constructs, particularly when mobile banking services and experiences increase. Thus future research may consider qualitative approaches including grounding theory or case study research to gain in depth understanding of factors that influence mobile banking adoption. Besides, using a longitudinal study in future research will provide more comparative insights into mobile banking adoption at different time periods. Finally, future research may consider the adoption of mobile banking by both public and private banks and draws differences in adoption rate, mode and type of services.

4) Only 5 top private banks and top 5 public banks have been taken to analyses development patterns. Further study can be made for all the Indian banks.