CHAPTER VI

SUMMARY OF FINDINGS, SUGGESTIONS AND CONCLUSION

6.1 INTRODUCTION

The present study has been undertaken mainly to address the various issues of Mobile banking relating to its growth, level of acceptance, usage pattern, level of satisfaction and non-usage of Mobile banking services. More specifically, the study strives to achieve the following objectives:

- To study the growth of Mobile banking services in India.
- To assess and analyze the acceptance level of Mobile banking services and also find out the influencing factors on its acceptance by the customers.
- To analyze the usage pattern of M-Banking services among various groups of customers and also assess their satisfaction level.
- To find out the reasons for the non-usage of Mobile banking services by the customers and clustering the customers according to their opinion towards non-usage of Mobile banking services.

The data used for the study are both primary and secondary data. The secondary data has been used to find out the growth and trend of Mobile banking services offered by public sector, private sector and foreign banks in terms of volume of transaction and value of transaction for the period of four years from May 2009 to May 2013. This is followed by the primary data which help to study the level of acceptance, influencing factors on the level of acceptance, usage pattern, satisfaction, level of satisfaction and the reasons for non-usage of Mobile banking services. Suitable statistical tools and applications have been used wherever necessary. In this chapter the researcher presents major findings, suggestions and conclusion derived after analyzing the data.
6.2 MAJOR FINDINGS

6.2.1 Mobile banking services

- In India Banks are offering Mobile banking services mainly through bank-led model and USSD-based Mobile phone.
- Banks offer pull (transaction) and push (enquired)-based Mobile banking services to their customers.
- Mobile Payment Service (IMPS) and (TRAI) developed and operated by National Payment Corporation of India (NPCI) which offers a centralized interoperable infrastructure and enables cashless rupees transfers between customer accounts in different banks through mobile phones in real time.
- Almost all the commercial banks have implemented Mobile banking services as in May 2013.
- 100% of the Public Sector Banks are providing Mobile banking services.
- 83.54% of the Private Sector & 97.5% of the foreign sector banks offer Mobile banking services to the customer.
- 35.53 millions of people are using Mobile banking services in India.

6.3. GROWTH OF MOBILE BANKING SERVICES IN INDIA

6.3.1 Growth of Mobile banking services offered by the public sector Bank in India

- **Total Value** of Mobile banking transaction performed by public sector commercial banks during the study period is Rs. 41913081.24. average value of Mobile banking transaction offered by public sector banks during the study period is Rs. 855369.0049, and the **coefficient of variation** for this is 1.01
- **Compound annual growth rate** for the value of Mobile banking transaction during the period is 14.52 %.
- There is a positive growth in the value of Mobile banking transactions of Private sector banks in India during the period from May 2009 to May 2013.
- **Total Volume** of Mobile banking transaction performed by public sector commercial banks is 75865049, average volume of Mobile banking
transaction offered by public sector banks during the study period is 1548266.306, and the coefficient of variation for this is 0.92. Compound annual growth rate for the volume of Mobile banking transaction is 14.48%.

- There is a positive growth in the volume of Mobile banking transactions of Public sector banks in India during the period from May 2009 to May 2013.

6.3.2 Growth of Mobile banking services offered by the private sector Bank in India

- Total Value of Mobile banking transaction performed by private sector commercial banks during the study period is Rs 55658894.56, average value of Mobile banking transaction offered by private sector banks during the study period is Rs 1135895.807, and the coefficient of variation for this is 1.58. Compound annual growth rate for the value of Mobile banking transaction is 11.82%.

- There is a positive growth in the value of Mobile banking transactions of Private sector banks in India during the period from May 2009 to May 2013.

- Total Volume of Mobile banking transaction performed by private sector commercial banks during the study period is 21809533, average volume of Mobile banking transaction offered by private sector banks during the study period is 445092.5102, and the coefficient of variation for this is 1.26. Compound annual growth rate for the volume of Mobile banking transaction is 8.97%.

- There is a positive growth in the volume of Mobile banking transactions of Private sector banks in India during the period from May 2009 to May 2013.

6.3.3 Growth of Mobile banking services offered by the Foreign sector Bank in India

- Total Value of Mobile banking transaction performed by foreign sector commercial banks during the study period is Rs.9345382.673, average value of Mobile banking transaction offered by foreign sector banks during the study period is Rs.190722.0954, and the coefficient of variation for this is 1.38. Compound annual growth rate for the value of Mobile banking transaction is 12.04%.
There is a positive growth in the value of Mobile banking transactions of foreign sector banks in India during the period from May 2009 to May 2013.

Total Volume of Mobile banking transaction performed by foreign sector commercial banks during the study period is 2359657, average volume of Mobile banking transaction offered by foreign sector banks during the study period is 48156.26531, and the coefficient of variation for this is 1.05. Compound annual growth rate for the volume of Mobile banking transaction is 6.13 %.

There is a positive growth in the volume of Mobile banking transactions of foreign sector banks in India during the period from May 2009 to May 2013.

6.3.4 Overall Growth of Mobile banking services offered by the Commercial Banks in India

Overall Total Value of Mobile banking transaction performed by commercial banks during the study period is Rs.107096121.6, average value of Mobile banking transaction offered by commercial banks during the study period is Rs.2185635.134, and the coefficient of variation for this is 1.31. Compound annual growth rate for the value of Mobile banking transaction is 12.25 %.

There is a positive growth in the value of Mobile banking transactions of Commercial banks in India during the period from May 2009 to May 2013.

Overall Total Volume of Mobile banking transaction performed by commercial banks value during the study period is 100353931, average volume of Mobile banking transaction offered by public sector banks during the study period is 2048039.408, and the coefficient of variation for this is 0.98. Compound annual growth rate for the volume of Mobile banking transaction is 10.69 %.

There is a positive growth in the volume of Mobile banking transactions offered by Commercial banks in India during the period May 2009 to May 2013.

The actual volume and value of Mobile banking transaction offered by public, private and foreign banks in India is more than the estimated volume and value of transaction. It indicates a faster growth of Mobile banking services in India.
6.3.5 Demographic profile of the sample customers

- Majority of the customers are male (75%).
- 58.81% per cent of customers belong to the age group of 18-27 years.
- 54.59 per cent of the customers is postgraduates and 43.42 per cent customers are graduates.
- 2/3rd of the customers are working in the private sector, 19 per cent respondents are students and 12 per cent customers are working in the government sector.
- 30 per cent respondents’ annual income is Rs.200001-300000, 27 per cent respondents’ annual income is Rs.300001-400000, 17 per cent respondents’ annual income is above Rs.500000.
- Majority (74.44%) of the customers are living in the urban area.
- The majority of the customers have their bank accounts in the Indian Bank (23.45%), followed by the State Bank of India (21.71%) and the Indian Overseas Bank (13.90%).
- Majority of the sample customers have their accounts in public sector banks (85.11%). This is followed by (13.03%) of the customers who operated their accounts in private sector and the remaining (1.86%) in foreign sector banks.
- (75.06%) of the respondents operate their bank accounts in the urban bank and then (22.83%) of the respondents operate their accounts in semi-urban bank and the remaining (2.11%) of them in rural area bank branches. Duration of holding Account with the bank.
- Majority of the respondents (42.93%) have accounts with banks for a period of more than three years.
- “Work compulsion” is the most preferred reason for the selection of bank branch by the customers with a mean score of 42.22 as per Garrett ranks. “Better service” is the second preferred reason for selecting bank branch of the customers with a mean score of 56.80. “Familiarity” is ranked third, “nearest to house” is ranked fourth and “nearest to office” gets the last rank with the lowest mean score in the Garrett’s ranking techniques.
- Majority (89.95%) of the bank customers are operating savings bank accounts and the remaining 10.05 per cent have current accounts.
Majority (96.15%) of the customers keep savings bank accounts, followed by (35.73%) of the customers having term deposit accounts and 25.43 per cent of the customers having recurring deposit accounts.

Majority (22.83%) of the customers availed housing loans, followed by (21.71%) of the respondents availing educational loans.

Majority (97.02%) of the respondents availed ATM services, followed by demand draft services (53.60%).

Majority (91.44%) of the customers availed on-line balance check services, followed by 84 per cent of the respondents availing inter-account transfers services through on-line and (81.76%) of the respondents availed on-line bill payments.

Majority (32.26%) of the customers are operating their bank accounts according to their requirement, followed by (26.80%) of the respondents operating their bank accounts once in a week and (25.93%) of the customers operate every day.

(48.39%) of the customers use Airtel services, followed by (17.37%) of the customers using Vodafone and (9.18%) of the customers use BSNL.

Majority (38.97%) of the respondents use 3G technology based mobile service, followed by (35.86%) of them using to GSM technology-based mobile service and (17.25%) of customers using GPRS-based mobile service.

Majority (48.14%) of the customers are using SMS services offered by service providers, and this is followed by (38.71%) of them using WAP-based mobile services.

**6.4 ACCEPTANCE LEVEL OF MOBILE BANKING SERVICES**

Majority (47.52%) of the customers have highly accepted various Mobile banking services offered by various commercial banks in Puducherry.

30.89 per cent of the customers have moderately accepted various Mobile banking services offered by various commercial banks in Puducherry.

The small number of 21.59 percent customer are having a low level acceptance of various Mobile banking services offered by various commercial banks in Puducherry.
6.4.1 Relationship between Age group and Level of Acceptance of Mobile banking services

The calculated ‘χ²’ value is 15.549 which is significant at five percent level of significance (Sig: 0.016) reveals that there is a significant relationship between the age group of the customers and their acceptance level of Mobile banking services.

6.4.2 Relationship between Annual income and level of Acceptance of Mobile banking services

The calculated ‘χ²’ value is 35.157 which is significant at one percent level of significance (Sig: 0.00) reveal that there is a significant relationship between the annual income of the customers and their acceptance level of M-Banking services.

6.4.3 Relationship between Banks and level of Acceptance of Mobile banking services

- The calculated ‘χ²’ value is 57.507 which is significant at one percent level of significance (Sig: 0.001) reveals that there is a significant relationship between the acceptance levels of M-Banking services among various banks.
- In addition, the value of relational statistics comes out to be .267 which is significant at one percent level and it is concluded that there is a low association between the bankwise acceptance levels of Mobile banking services.

6.4.4 Relationship between banking services availed by the customers and their acceptance level

There is a significant relationship between banking services like deposit services and e-banking services availed by customers and their acceptance level regarding Mobile banking services.
6.4.5 Acceptance level of Mobile banking services- Application of Discriminant function

- It is a statistical technique which helps to assess the differences between two or more groups with respect to several variables simultaneously and provides a means of classifying any object/individual into the group with which it is most closely associated and to infer the relative importance of each variable used to discriminate between different groups. In the present study, customers’ acceptance level in Mobile banking has been analysed. Twenty four explanatory variables were considered for the analysis.

- Among the several variables under study, six variables namely, Enquiry of branch and ATM location-X21, Mobile recharging-X16, Fund transfers - X14, Commercial payment processing-X17, Product information condition and offers-X20 and Peer To Peer payments-X19 are substantially important variables, in discriminating between groups of customers.

6.4.6 Factors Influencing acceptance of Mobile banking services by the customers

The factor analysis condensed and simplified the seventeen influencing variables on the acceptance of Mobile banking services and these are grouped into four factors explaining 67.17 per cent of the variability of all the variables. Finally, the four factors named as confidentiality, time saving, easy to use and low/no cost are the influencing factors for accepting banking services by the customers.

6.5 USAGE PATTERN OF MOBILE BANKING SERVICES

6.5.1 Usage of Mobile banking services of the customers

In the study area, 58.06% of the customers are using the Mobile banking services offered by various commercial banks in Puducherry.
6.5.2 Relationship between Education and Usage of Mobile banking services

- The calculated value of $\chi^2$ between education of the customers and their usage of Mobile banking services is 9.128 whose asymptotic significant value is 0.028 which is less than five percent level of significance. Therefore, the null hypothesis is rejected. It can be reported that there is a significant relationship between the education of the customers and their usage of Mobile banking services.
- In addition, the value of relational statistic comes out to be .106 which is significant at five percent level and this suggests that there is a low association of usage of Mobile banking services among the various education groups of the customers.

6.5.3 Relationship between Occupation and Usage of Mobile banking services

- The calculated value of $\chi^2$ between occupation of the customers and their usage of Mobile banking services is 11.917 whose asymptotic significant value is 0.018 which is accepted at five percent level of significance. This reveals that there is a significant relationship between the occupation of the customers and their usage of Mobile banking services.
- In addition, the value of relational statistic comes out to be .102 which is significant at five percent level which means that there is a low association of usage of Mobile banking services among various occupation groups.

6.5.4 Relationship between Annual Income and Usage of Mobile banking services

- The calculated value of $\chi^2$ between annual income of the customers and their usage of Mobile banking services is 11.917 whose asymptotic significance value is 0.036 which is significant at five percent level of significance. This reveals that there is a significant relationship between the annual income of the customers and their usage of Mobile banking services.
- This is followed by phi co-efficient value comes out to be .122 which is significant at five percent level which means that there is a low association of
usage of Mobile banking services among the various annual incomes of the customers.

6.5.5 Relationship between Annual Income and Usage of Mobile banking services

The calculated value of $\chi^2$ between the annual income of the customers and their usage of Mobile banking services is 11.917 whose asymptotic significant value is 0.036 which is significant at five percent level of significance. This reveals that there is a significant relationship between annual income of the customers and their usage of Mobile banking services. This is followed by phi co-efficient value comes out to be .122 which is significant at five percent level which means that there is a low association of usage of Mobile banking services among the various annual incomes of the customers.

6.5.6 Relationship between Place of living and Usage of Mobile banking services

- The calculated value of $\chi^2$ between the annual income place of living of the customers and their usage of Mobile banking services is 11.917 whose asymptotic significance value is 0.036 which is less than five percent level of significant value. Therefore, the null hypothesis is rejected. It can be reported that there is a significant relationship between the place of living of the customers and their usage of Mobile banking services.
- The value of relational statistic comes out to be .090 which is significant at five percent level and it can be reported that there is a low association of usage of Mobile banking services among the various places of living of the customers.

6.5.7 Relationship between Location of bank and Usage of Mobile banking services

- The calculated value of $\chi^2$ between the location of bank branch and usage of Mobile banking services is 6.773 whose asymptotic significance value is 0.034 which is significant at five percent level of significance. It can be concluded that there is a significant relationship between the location of bank branch and usage of Mobile banking services.
The value of relational statistic comes out to be .092 which is significant at five percent level which means that there is a low association of usage of Mobile banking services among rural, urban and semi-urban areas.

6.5.8 Relationship between duration of relationship with bank by the customers and their Usage of Mobile banking services

- The calculated value of $\chi^2$ between the relationship with the bank of the customers and their usage of Mobile banking services is 10.208 whose asymptotic significance value is 0.037 is significant at five percent level of significance. So, the null hypothesis is rejected. It says that there is a significant relationship between the duration of relationship with the bank by the customers and their usage of Mobile banking services.
- The value of relational statistic comes out to be .113 which is significant at five percent level and it can be reported that there is a low association between the duration of relationship with the bank by the customers and their usage of Mobile banking service.

6.5.9 Differences in usage pattern of Mobile banking services between the male and female customers

- The calculated value of ‘t’ is 1.989 whose significant value is 0.047 which is significant at five percent level of significance. It means that there is a significant difference on usage pattern of Mobile banking services between the male and female group of customers.
- Further, it is learnt from the results that the usage pattern of Mobile banking services is more by male customers than female.

6.5.10 Difference on usage pattern of Mobile banking services among the various banks customers

The calculated ‘f’ value is 1.939 whose significant value is .021 which is statistically significant at five percent level of significance. This is revealed that there is a
significant difference on usage pattern of Mobile banking services among the various banks’ customers.

6.5.11 Reasons for using Mobile banking services

Based on the Garrett Ranking, the study found that time saving is the most important reason for using Mobile banking services. This is followed by flexibility instant and immediate transaction, fast and effortless. On the other hand, curiosity (mean score 28.42) and ubiquitous (mean score 44) are the least important reasons for using Mobile banking services.

6.6. CUSTOMERS SATISFACTION LEVEL OF MOBILE BANKING SERVICES

75.21% of the customers are highly satisfied about the Mobile banking services offered by various commercial banks in Puducherry.

6.6.1 Relationship between the bank and satisfaction level among the customers

- The calculated $\chi^2$ value is 38.260 with significant value of 0.001 which is statistically significant at one percent level of significance. It reveals that there is a significant relationship between the customers of various banks and their satisfaction level of Mobile banking services.
- Also the relational co-efficient value is .286 which is significant at one percent level and it means that there is a low association between the satisfaction levels of Mobile banking services among various customers of various banks.

6.6.2 Relationship between Category of bank and Satisfaction level of Mobile banking services

The calculated $\chi^2$ value is 9.952 whose significant value is 0.007 which is statistically significant at one percent level. It reveals that there is a significant relationship between the category of bank and the satisfaction level among customers regarding Mobile banking services. Also the relational co-efficient value comes out to be .146 which is significant at one percent level and it is concluded that there is a low
association between the satisfaction levels among the customers regarding Mobile banking services among public, private and foreign sector banks.

6.6.3 Satisfaction level of Mobile banking services—Application of Discriminant function

- It is a statistical technique which helps to study the differences between two or more groups with respect to several variables simultaneously and provides a means of classifying any object/individual into the group with which it is most closely associated and to infer the relative importance of each variable used to discriminate between different groups. In the present study, customers’ satisfaction level in Mobile banking services has been analysed. Twenty two explanatory variables considered for the analysis.

- Among the several variables under study, six variables namely, Due date of payment-X11, Commercial payment processing-X17, Alerts through SMS for balance-X22, Fund transfers-X14, Mini statements and checking of account history-X1 and Ordering cheque books-X9 are substantially important variables, in discriminating between groups of customers.

6.6.4 Problems regarding usage of Mobile banking services

Based on the Garrett Ranking, the study has found that signal problem is the most important problem for using Mobile banking services because its mean score was 65.87. This is followed by no standard software with mean score of 57.78 and vulnerability with mean score of 57.52. On the other hand, complicated/uncomfortable usage of mobile device (mean score 32.55) and lack of mobile service centers (mean score 41.62) is the least important problems regarding usage of Mobile banking services.

6.7 REASONS FOR THE NON–USAGE OF MOBILE BANKING SERVICES

Based on the Garrett Ranking, the study has found that lack of interest (mean 61.18), lack of motivation from banks (mean 56.80) and insufficient guidance and lack of proper guidance (mean 55.02) are the important reasons for non-usage of Mobile banking services. On the other hand, difficulty in understanding technology (mean score 41.08),
and lack of mobile service centers (mean score 41.62), inadequate regional language option (mean 43.19) and cost of access mobile phone (mean 45.68) are the least important reasons for non-usage of Mobile banking services.

6.7.1 Clustering of the Customers according to their opinion towards non-usage of Mobile banking services

- Cluster analysis grouped three clusters that have been formed with highest percentage of customers.
- All the opinion towards non-usage of Mobile banking services is strongly accepted by the customers because the value of ‘f’ comes out less than one percent significant level.
- The second cluster has 71.60 percent of customers and they have accepted most of the opinions towards non-usage of Mobile banking services.
- This is followed by fewer number of customers i.e., 5.03 per cent included in the first cluster, their opinion towards non-usage of Mobile banking services not accepted.
- Moreover, 23.37 per cent of the customers are formed in the third cluster, they are neutrally accepted towards non-usage of Mobile banking services

6.8 SUGGESTIONS

Mobile banking services have clear financial benefits for bankers. It enables bankers to save transaction cost, establish an ROI and drive profitability without question. Rise in smart phone usage and improved applications by banks helps Mobile banking gaining popularity among young users. However, successful utilization of Mobile banking services depends on mass customer acceptance and subsequent growth in higher transaction volume and value. For the increase of acceptance rates and for the success of Mobile banking services, a few suggestions are presented here below.

1. In India Common Mobile banking applications and common technological platforms require to be constructed for drawing the profits of “network effects”, while bank-specific applications and single mobile based platforms have a good time to build a brand loyalty.
2. An interchange consistent/common platform, interoperability and interchangeable transactional feel to the users/customers of all commercial banks to promote Mobile banking services.

3. All the commercial banks in India motivation to search early thinks of helping the customer/user registration procedure for Mobile banking services it doesn’t expect to visit the bank branch.

4. In India total number mobile phone subscribers is large. Mobile banking services have greater potential markets bringing the customers under one banking umbrella. All the commercial banks and co-operative banks and regional rural banks in India should offer Mobile banking services to every Indian citizen.

5. There is a demand to encourage the utilization of its value-added Mobile banking services among the various commercial banks in India.

6. Banks will have to get more customization, providing a widespread of financial products via Mobile banking services that would bring all the people under financial inclusion.

7. The acceptance level, usage pattern and satisfaction level and of Mobile banking services is observed to be more among the various groups of the customers in the public, private sector and foreign sector banks. Banks have to commit excess drives in generalizing Mobile banking services amongst their customers. So, Banks should take good steps to organize more seminars, workshops, and other awareness programmes in order to make the customers aware of about their Mobile banking services.

8. The commercial banks in India should promote all the existing customers and encourage new customers to use Mobile banking services.

9. Commercial banks in India should take necessary steps to implement Mobile banking among below-poverty-line group of customers and under banked centres.

10. Usability is the key to acceptance of a technology-enabled service. Bankers should create a user-friendly process and authentication of applications for Mobile banking for download. During customer interface points, bankers should explain the steps involved in using Mobile banking opportunities.
11. Bankers should use their online presence to promote awareness and acceptance of Mobile banking services. As users of social media are more likely to be early accepters, bankers should use the social media channel to increase acceptance rates.

12. Bankers should use multiple channels, for example, media and touch points to communicate customers about the benefits of Mobile banking services.

13. Bankers should establish integrated customer assistance-cum-grievance mechanism cutting across various mediums such as bank branches, free call centres, internet and mobile transactions. Bankers should train staffs so that they not only to understand the Mobile banking process, but also get empowered enough to make decisions.

6.9 CONCLUSION

The study undertaken hence reports the fast growth of Mobile banking services in the banking sector of India in terms of their volume and value of Mobile banking transaction. The actual volume and value of Mobile banking transaction offered by public, private and foreign banks in India are more than the estimated volume and value of transaction. It indicates faster growth of Mobile banking services in India. During the study period the value and volume of Mobile banking services offered by public sector banks were more than the private and foreign banks. It indicates the higher growth of mobile services offered by public sector banks compared with those of private and foreign banks. It is provided more contribution to the overall growth of Mobile banking transaction service banks in India.

In the study area more number of customers are using Mobile banking services and majority of them have accepted various Mobile banking services offered by various commercial in banks in Puducherry. In addition, customers are satisfied with the Mobile banking services offered by various commercial banks in Puducherry. Consumers mostly use the mobile medium to pay bills, recharge mobile phones, book tickets and transfer funds. Confidentiality and security are significant barriers to the acceptance of Mobile banking services. Poor network access, Insufficient operating guidance and lack of customer education are reasons for the poor usage of Mobile banking services by customers.
This study indicates that Mobile banking services, which was developed to minimize transaction cost and improve efficiency in banking transactions. This study concludes that customer education aimed at familiarizing customers on the usage of Mobile banking applications coupled with enhancing security of Mobile banking transactions is the way forward, which will help the banks to experience higher transactions in terms of both volume and value.

6.10 LIMITATIONS AND SCOPE FOR FUTURE RESEARCH

This study has several limitations, which could serve as motivation for future research in this domain. Firstly, this study is conducted within selected bank branches in Puducherry, which is a small Union Territory with regard to its size and population. Since the acceptance and usage pattern tend to vary with diverse population with different acceptance levels and perceptions. Hence, researchers may want to further research through expanding the study objectives to large representative population for better generalization of the study findings and results.

Secondly, the study obtained response for the measures of constructs at a single point of time. Several studies contend that individuals’ perceptions and response may change due to enhanced awareness, newer experience and acceptance of technologies over time. It is therefore suggested that longitudinal studies be undertaken to examine the acceptance and usage patterns of Mobile banking services at different time intervals.

Finally, statistical analysis could be extended to explore complex relationships between the various constructs examined in this study rather than those analyse employed in this study. In sum, a large-sampled longitudinal study examining the context of Mobile banking services acceptance, usage pattern and satisfaction and utilization is needed to identify generalized results.