Chapter - II

REVIEW OF LITERATURE

Review of literature is very important and inevitable in any research project. Its stress is extremely felt by researchers involved in research study. In order to gain profound knowledge concerning the problem and to have a distinct and deep insight in to the problem, the need to review is felt essential. A familiarity with the literature of any problem area helps the investigator to discover, what is already known? What others have attempted to find out? What methods of attack have been promising or disappointing? And what problems remain to be solved?

With these objectives in mind, the following review of literature is done in order to find out the right path on which the investigator can go in order to reach at some meaningful conclusion about what still needs to be achieved regarding the problem under investigation.

2.1 Literature Review

Fozia (2013) determined bank customer’s perception towards e-Banking services in Aligarh city. To collect primary data for the study five point Likert type scale was used. Total sample size was 196. Analysis of variance technique was employed to study significant relationship of occupation and age with customer perception of e-Banking services. The results of the study showed that different age group customers and different occupation group customers had different perception towards e-Banking services. The results also proposed that demographic factors impact internet banking behaviour, specifically, occupation and age significantly.

George, A. and Kumar, G. (2013) carried out the present study to use the Technology Acceptance Model (TAM) from the Information Technology (IT) literature to investigate the effect of TAM variables on customer satisfaction in the internet-banking context. The model was constructed by incorporating Perceived Risk (PR) to the twin traditional TAM constructs, Perceived Ease of Use (PEOU) and Perceived Usefulness (PU). The model had been empirically validated using 406 internet banking users selected from the state of Kerala, India. It was found that the constructs PEOU and PU had positive effect on customer satisfaction and PR had negative effect on customer satisfaction. A profile analysis of the respondents revealed that young males, well-educated employees with a
moderately high level of monthly income were the major users of互联网 banking in Kerala. 

Hossein, G. et al. (2013) investigated the impact of online service quality on customers' satisfaction in banks of Guilan. Six factors including reliability, responsiveness, competence, ease of use, security and Product portfolio were identified as dimensions of online services quality. Statistical population was all people using the internet banking system in public banks of Guilan. A sample of 384 bank customers was taken for the study. Multiple and linear regression was used to measure the impact of online service quality on customer satisfaction. The results showed that all 6 factors of online service quality had their effect on customers' satisfaction of public banks of Guilan. E-service quality dimensions had a direct relationship with customer satisfaction and this allowed financial institutions to develop and implement appropriate marketing strategies. 

Joy, T.M.A. and Kani, R.M. (2013) conducted this study in south Tamilnadu keeping in mind various objectives like to examine the awareness level of ATM services, to study the level of customer satisfaction on various aspects of ATM services, to identify the problems faced by customers while using ATM services and to offer suggestions to overcome the problems in ATM services in near future. Primary and secondary data was used in the study to arrive at the conclusions. For primary data a well-structured questionnaire was prepared and distributed to the customers of State Bank of India in south Tamilnadu. Secondary data was collected from various published and non-published works including books, periodicals, magazines, government reports, journals and websites, etc. Simple Random sampling method was followed for the study covering State Bank of India bank branches in south Tamilnadu, that are Kanyakumari district, Trinelveli district, Thothukudy district. From each district 40 bank customers were selected from State Bank of India and the sample size was 120 customers. The data collected was analyzed through Percentages, Chi-square test and Weighted Average Method. It was found that ATM services of SBI south Tamilnadu were well received and utilized by the customers. It was revealed that withdraw in cash through ATM was very convenient and majority of the respondents had used ATM services regularly. With regard to purpose more weightage was given to 'withdrawal' facility of ATM. The positive association between the age of respondents and purpose of using
ATM cards was well accepted by the study. The study had demonstrated that a considerable number of customers had access to this machine and were consequently utilizing them for multi-purpose transactions, despite its challenges and shortcomings. It was important to note that most of the people using the machine were young person. The well organized and planned performance of the SBI in the arena of ATM cards was clearly supported by this study.

**Juneja, A. (2013)** conducted a descriptive study in Punjab in order to evaluate whether the customers were satisfied with the efforts of the banks. Primary data was collected on a random sample of 300 bank customers of three bank groups i.e. public sector, private sector and foreign banks. Percentage statistical technique was used for the analysis of data concerning customer's perception towards e-Banking. The results revealed that most of the bank customers were satisfied with the functioning of e-delivery channels and they believed that the banks were not charging any unreasonable fee for these e-delivery channels. Also, the bank customers thought that e-Banking system was more transparent and efficient than the manual system and it also kept their personal information confidential. Overall, e-Banking system was an enjoyable experience for all.

**Mehta, R.A. (2013)** attempted to measure satisfaction level of customers by comparing various factors that impact satisfaction of customers in banks located in Navsari city of Gujarat. Structured questionnaire was used to collect data on demographic profile, satisfaction level and dimension which derive satisfaction of customers. Total size of sample was 300. Convenience random non probability sampling method was used. Covariance and standard deviation were used as tool for statistical analysis and to bring interpretations. The results indicated that banks were lagging behind in introducing modern customized products such as investments and tax Advisory Services, cash management service, and so on. Growth of electronic fund transfer (EFT) real time gross settlement system and mobile banking services were very poor. So, the banks were still not successful in increasing customers’ satisfaction.

**Mohammad, A. et al. (2013)** investigated the degree of customer satisfaction of e-Banking services as well as the factors influencing satisfaction. The population of the study consisted of all clients who referred to Tehran banks. Quota sampling method
was used. 384 questionnaires were randomly distributed among customers of various branches of banks in the city. The obtained data was analyzed using SPSS 18. Independent sample t-test and ANOVA were applied for inferential statistics and for analyzing the relationship between interval variables, regression was used. Based on the findings of this study, the highest degree of correlation was between the positive experience of electronic banking services and their satisfaction of electronic banking services. In addition, there was a significant positive relationship between income level, service provided by personnel and education level with the dependent variable.

Paul, S. (2013) conducted this study to check if the current and prompt technological revolution altering the whole world had crucial impacts on the banking sector in Orissa. It mainly focused on investigating the important factors influencing the online customers' satisfaction with the overall service quality of their concerned banks and emphasizes on measuring the ATM standards and service quality. The methodologies used for this research involved interviews with bank customers and bank managers of the case study banks and administrations of questionnaires to a number of bank customers. Total size of the sample was 200. It was found from the study that many factors like education, knowledge in computer, willingness of the people, people's convenient and awareness etc. were responsible for the successful operation of E-Banking. A large number of people (especially the old generation) had no computer knowledge, till now preferred the traditional banking, but along with some moderate changes and quick service delivery. But the young generation was more familiar with computer and internet banking, so they were more interested in using the E-Banking system particularly in ATM & online transaction rather than old & traditional banking. Again the falling costs of machines and connectivity were a key factor contributing to the growth of ATM network. So, banks had also been cutting costs and gaining synergies through ATM sharing agreements amongst themselves.

Sakhaei, S.F. (2013) investigated the impact of service quality factors of Internet Banking on customer satisfaction in Iran through an applied research study of descriptive-surveying kind. To study the relation between service quality and customer satisfaction, first a hybrid model based on the previous works had been proposed. Six service quality dimensions namely reliability, efficiency, responsiveness, fulfillment,
security/privacy and website design had been established. The data were gathered through survey interview by 5-Point Likert type scale. The study showed that the six service quality dimensions had meaningful relationship with customer satisfaction in Internet Banking and the reliability index had most effective and website design had least effective on customer satisfaction than other indicators. Since the average customer satisfaction did not differ between the websites of different banks could be the result of different banks in the country in terms of quality of Web services and that is why they were not statistically significant.

**Simon, G.N. et al. (2013)** empirically examined Customers' Satisfaction with internet banking service quality in the Ghanaian banking industry. The study was a cross-sectional survey that employed the use of self-administered questionnaire to collect primary data from a sample of 200 respondents of two banks through personal contact. The findings showed that customers of Merchant Bank, Ghana (MBG) were more satisfied with the Internet based service quality than those of Ghana Commercial Bank (GCB). Moreover, income influenced the satisfaction of customers for Internet based service quality generally. Customers of the two banks were dissatisfied with the promptness of reception of responses to customer request, the ability to be guided online to resolve problems, offering of preferentially lower fees/ rates and charges, and reasonability of the transaction fee for online banking transactions and quickness of web pages loading when using online banking transactions.

**Aghdaie, S.F.A. and Faghani, F. (2012)** examined the relationship between mobile banking services and customer satisfaction in Iranian banks by applying SERVQUAL model. Customer satisfaction was used as dependent variable and the five dimensions of service quality namely, tangibles, reliability, responsiveness, assurance and empathy, as independent variables. The data was collected using convenience sampling from three of the Iranian Google groups with online questionnaire to 120 respondents. Descriptive statistics, Pearson's correlation coefficient, regression analysis and factor analysis technique were used for the analysis of data. Results showed that the four variables namely tangible, reliability, responsiveness, and empathy correlate with satisfaction significantly. However, the assurance factor would have no relationship with customers' satisfaction. The research concluded that increase in service quality of the
mobile banking could satisfy and develop customer satisfaction that ultimately retains valued customers.

**Alsamynai, M.J. et al. (2012)** examined in their study the factors affecting customer satisfaction for the continuation in dealing with e-Banking services in Jordan. For this purpose, a model had been designed for the study, which included a number of variables which were identified based on an investigation and examination of the environment of commercial banks. The study’s constructs were divided into five dimensions including E-banking service quality, personal factors, perceived usefulness, customer satisfaction and continuity to deal with E banking services. For the collection of data a questionnaire consisted of 16 questions was designed. A sample of 441 customers of commercial banks in Amman was taken. The results indicated that there was a significant relationship between all constructs of the study’s model. Also, the factors relating to E-Banking service quality, personal factors and perceived usefulness had an influence on consumer satisfaction and continuation in dealing with E-Banking services.

**Gupta, K.K. and Bansal, I. (2012)** attempted to develop a reliable and valid instrument for measuring Internet banking service quality in India, and also analysed the impact of Internet banking service quality dimensions on the overall internet banking service quality and customer satisfaction. Exploratory research method was used for the present study. Extensive literature survey, focus group discussion and expert interviews were used to develop a battery of Internet banking service quality items. A sample of 1350 Internet banking customers of private sector, public sector and foreign banks was surveyed in the Delhi Metropolitan Area. Results of exploratory factor analysis (EFA) revealed five dimensions- Security/Privacy, Reliability, Efficiency, Responsiveness, and Site Aesthetics. Impact of these dimensions on overall internet banking service quality and customer satisfaction was analysed using multiple regression technique. Findings indicated that all dimensions carried significant impact on the overall internet banking service quality perceptions and customer satisfaction. However, security/privacy and efficiency dimensions carried the maximum impact on the overall internet banking service quality and satisfaction respectively.
Kallanmorthodi, G. and Vaithiyanathan, M. (2012) determined factors influencing consumer’s adoption of e-Banking in India and hence investigated the influence of perceived usefulness, perceived ease of use and perceived risk on use of e-Banking. Survey based questionnaire design with empirical test was carried out. Data was collected through an interview schedule administered to 200 bank customers belonging to 19 public sector banks in the city of Coimbatore, India. Convenience sampling method was used in the selection of the sample respondents. Factor analysis was performed to assess the validity of the construct and regression analysis was employed to analyze the data. The results showed that PU, PEU and PR were the important determinants of e-Banking adoption. Customers were reluctant to adopt new technologies that might contain risk. Hence, the banks should ensure that online services is as safe as traditional banking, emphasize the convenience of using online banking and educate the customers regarding the uses of online services as well as security of their accounts.

Kaseke, N. et al. (2012) conducted a study on the impact of Virtual banking on Customers’ satisfaction in Zimbabwe. The data was collected through survey method. In order to gather information about the extent to which Virtual Banking was being implemented by commercial banks, a questionnaire was designed. The administration of the questionnaires to respondents was via the virtual banking platform in the same way e-statements were mailed to them. The research used random sampling focusing on commercial banks customers in Zimbabwe with a sample size of 250. Data was analysed through correlation coefficient matrix and factor analysis techniques. Research findings revealed that customers were satisfied with Virtual Banking. The main factors satisfying the customers were convenience, service points always up, banking solutions were cheap, instant update by banks, money was secure and confidentiality. The correlation coefficient matrix showed that the majority of factors range from 0.2 to 0.7 and significant factors loadings above 0.33 of the factors using centroid factor analysis indicated that the majority of the factors influence the level of satisfaction. The study concluded that the concept of Virtual Banking had been accepted by customers and customers were satisfied with the banking model. The researchers recommended that there is need to create awareness by commercial banks and improve access to
technology for the customers to realise full benefits and improve levels of satisfaction with Virtual Banking.  

**Kuchara, V. (2012)** assessed the satisfaction of the Customers with Internet banking service with reference to Ahmedabad City and examined whether there was any relation with the demographic variable (e.g. age) and respondents’ perception about internet banking for Convenience. Descriptive method was used for research design. Primary data was collected by structured survey. The survey was done online and link sent to the respondents from Ahmedabad using convenience sampling. The total size of sample was 193. One way ANOVA model was used to determine the significance level of the variables for the Customer Perception in Internet banking. Results indicated that ‘Convenience’, ‘security’, ‘easy to maintain banking transaction’, ‘Curiosity’, ‘Better rate’ and ‘Low service charges’ were major factors responsible for internet banking. Out of total respondents, 50% agreed that internet banking was convenient and flexible way of banking and it also had various transaction related benefits. Thus, providing Internet banking was increasingly becoming a “need to have” than a “nice to have” service.  

**Safeena, R. et al. (2012)** evaluated those factors that manipulate the nature of customers towards mobile banking and their growing tendency towards the online financial institutions. A survey instrument in the form of questionnaire consists of several questions of Likert type was developed through data collected from previous studies on acceptance of mobile banking in order to identify the respondents’ perceptions towards mobile banking adoption. Personal interviews were conducted to seek general information from the managers about mobile banking and they were asked to discuss the reasons for undertaking mobile banking and to highlight mobile banking development challenges. Convenience sampling method consisted of a sample of 52 respondents was taken for this study. The result of this study showed that perceived usefulness, perceived ease of use, consumer awareness and perceived risk were the important determinants of mobile banking adoption. This study met the desired objective; but it suffered from one setback. Study concluded that majority of customers were accepting online banking because of many favorable factors. Analysis concluded that usefulness, ease of use of the system awareness about mobile banking and risks
related to it were the main perusing factors to accept online banking system. These factors had a strong and positive effect on customers to accept mobile banking system.  

**Shende, A. and Khursange, S. (2012)** found out the preferences of the customers towards the use of the E-Banking. They also identified the awareness of internet banking among customers of different banks. The study also aimed to find customers' satisfaction relating to E-Banking service. In this research with a sample size of 300 bank customer’s primary data was available in form of questionnaire collected in terms of different questions influencing the use of E-Banking. Internet banking was considered as dependent on awareness among customers which was studied with help of different independent variable. For Secondary data information was collected from several research articles. Descriptive Research design was used for the collection of primary data. The results showed that in the total users of the banking services the percentage of use of E-Banking is 65% of total customers. More banks were collaborating with some software company to run the E-Banking service. In these services SBI was at the top in service of E-Banking with ICICI and HDFC whose promotion of E-Banking services was higher. The services that were mostly used by maximum customers were transactions, online trading, bill payment, shopping etc. The satisfaction level of the customer was also highest in use of E-Banking services. But they found that there was a major group of older age people who were hesitant in the use of the E-Banking services. So, there is a need for awareness program for them.  

**Uppal, R.K. (2012)** highlighted customer perceptions regarding e-Banking services in Punjab. The present study investigated thoroughly perceptions of bank customers regarding necessity of e-Banking services, quality of e-Banking services, bank frauds, future of e-Banking, preference of bank customers regarding banks, comparative study of banking services in various bank groups, preferences regarding use of e-channels and problems faced by e-bank customers. Total size of the sample was 768. The respondents were equally divided among three bank groups namely, Public Sector, Private Sector and Foreign Banks. Three banks, one from each bank group were selected for the investigation. Further three branches one from each bank group which were providing e-Banking services was selected. The sample was equally divided among the three bank branches. The respondents were asked to respond on five point
likert type scale. Data was analyzed with the help of Percentage, Ranking and Weighted Average Score (WAS) method. The major findings of this study was that customers of all the bank groups were interested in e-Banking services but at the same time they were facing many problems regarding e-Banking services like inadequate knowledge, poor network, lack of infrastructure, unsuitable location, misuse of ATM cards and difficulty to open an account.

Vasagadekar, P. (2012) threw light on the responses to E-Banking facilities of bank customers of Pune & its outskirts to check the percentage of customers using online banking and to suggest some ways for making internet banking successful. This research depicted the study of various E-Banking facilities that were provided by private sector, public sector & co-operative banks in Pune & its outskirts. For the study, structured questionnaire method was used on a sample of 15 banks, 60 bank customers and 15 bankers. The results revealed that E-Banking had become a necessary survival weapon for the banks to become profitable and was fundamentally changing the banking industry worldwide and offered customers banking services at a much lower cost and also empowered them with unprecedented freedom in choosing vendors for their financial service needs. Also, the rise of E-Banking was redefining business relationships and the most successful banks were those that truly strengthen their relationship with their customers. While the private sector and foreign banks had been fast in adopting Internet technology in client servicing, there was a gradual trend for the major public sectors banks and numerous cooperative units to move in the same direction.

Ahmad, M.K. and Ali, H. (2011) explored the adoption of e-Banking functionality and investigated the impact of e-Banking on the outcomes of customer satisfaction namely, loyalty and positive WOM within the Jordanian Commercial Banks. A purposive sampling technique was employed to recruit 179 customers representing the desired range of demographic characteristics (e.g. gender, age, and computer use), previous internet experience levels and product-related knowledge. Results showed that adoption of e-Banking (accessibility, convenience, security, privacy, content, design, speed, fees and charges) had a positive effect on Jordanian Commercial Bank customers' satisfaction, loyalty, and positive WOM.
**Datta, S. and Kundu, S. (2011)** conducted this study to find out whether e-Banking initiatives in Indian public sector banks (PSBs) could be considered as a successful case of BPR implementation. Attempt had been made to study e-Banking solutions adopted by Indian PSBs and to evaluate their performance in improving the level of customer satisfaction and the business performance of the PSBs. The study was based on secondary data on selected Indian public and private sector banks. The research showed that there was a growth in the usage of ATMs and in the volume of electronic funds transfer which reflected that customer prefer e-delivery channel more than traditional branch banking. The growth of productivity indicators of reengineered banking process was higher than that of the partially computerized banks and banks following traditional mode of operation. The research work brought out that information technology (IT) application had a very prospective future in India.

**Ganguli, S. and Roy, S.K. (2011)** aimed to identify the generic service quality dimensions of technology based banking and to examine the effect of these dimensions on customers' satisfaction and customers' loyalty. The generic service quality dimensions were identified using an exploratory factor analysis (EFA). Next the reliability and validity of the factors and customer satisfaction and customer loyalty were established through confirmatory factor analysis (CFA) using AMOS 16.0 s/w. The related hypotheses were tested using structural equation modeling using AMOS 16.0. Results identified four generic service quality dimensions in the technology-based banking services- customer service, technology security and information quality, technology convenience, technology usage easiness and reliability. It was found that customer service and technology usage easiness and reliability had positive and significant impact on customer satisfaction and customer loyalty. It was also found that technology convenience and customer satisfaction had significant and positive impact on customer loyalty.

**Hamadi, C. (2011)** conducted a study to know the need of personal interaction in relationship between E-Quality, E-Satisfaction and Commitment in Moroccan e-Banking users. The data was collected using an online questionnaire developed by Hamadi to measure the perceived quality of internet banking. This scale was composed of 21 items measuring seven dimensions related to perceived quality of internet banking. A
convenience sample of 639 users of internet banking had been established. The results showed that the need for personal interaction had no moderating effect on the relationship between e-quality and e-satisfaction, either in the relationship between e-satisfaction and commitment. The results revealed that a high or low need for personal interaction did not modify these relationships for Moroccan e-Banking users.

Kadir, M.A. et al. (2011) identified the effects of services offered by Malaysian banks through online media and ATMs on customer satisfaction. 500 students from different universities in Malaya, University Kebangsan Malaysia, University Putra Malaysia, Multimedia University, Malaysia and Limkokwing University chosen as a sample frame of the study. Two analyses were employed to fully reflect the effect of online and ATM services on their satisfaction level. The first one was service quality model which compares the difference between satisfaction and expectation level in order to find out which dimensions need to be improved. Second analysis was Two Way ANOVA which tried to identify the relationship between demographic factors and the study’s outcome. Finally, the study determined which factors had the most effect and which factors had the least effect on customer satisfaction level. After summarizing all demographic, perception and expectation information, gaps of online banking and ATM services in Malaysia were found. 3 out of 11 dimensions of E-SERVQUAL model were found unable to respond customers’ need. These dimensions were responsiveness, customization, and flexibility for E-SERVQUAL model which was applied for online banking system in Malaysia. On the other hand, tangible and responsiveness dimensions out of 5 dimensions of SERVQUAL model were found unable to fulfill the respondents demand as well.

Kumbhar, V.M. (2011) conducted an empirical study focuses on identifying key factors that had influenced customers satisfaction in ATM service provided by public and private sector banks. The primary data was collected on 210 customers of public and private sector banks in Satara and Kolhapur cities of Maharashtra state in India. Convenience sampling method was used and is limited to the ATM users of six commercial banks i.e. SBI; Bank of Baroda, Corporation Bank, IDBI Bank Ltd., Axis Bank Ltd. and HDFC Bank Ltd. The survey instrument consisted of 24 items which were identified through a comprehensive review of the e-service quality literature.
The result indicated that a mean score of perception relating to various service quality aspects was ranging between 2.5 to 4.2 and other than cost effectiveness of ATM service perception about remaining all service quality dimensions is approximate same in public and private sector banks. Overall results showed that cost effectiveness of ATM service was core service quality dimension and it was significantly affecting overall customer satisfaction in ATM service provided by commercial banks. However, result of factor analysis indicated that cost effectiveness, easy to use, security and responsiveness influenced customer satisfaction at 36% variance. Therefore, banks should concentrate their efforts on these dimensions for cater better ATM service to satisfy their customers.

Malavizhi, V. (2011) attempted to present an overview of e-Banking services offered by both public and private sector banks in Coimbatore city to examine the socio-economic profile of e-Banking user; to study the extent of awareness and the usage of e-Banking services and to ascertain customer’s satisfaction about various e-Banking services. The data was collected with the help of a well structured and pre-tested interview schedule, administered to 100 e-Banking users. The data collected was tabulated and analyzed by using simple percentages, Chi-square test and Garrett ranking technique. The results revealed that customers were satisfied with the services provided by public sector banks than private sector banks. Also, e-Banking increased operational efficiencies and reduces costs, besides giving a platform for offering valued added services to the customers, thereby fulfilling all the essential prerequisites for a flourishing banking industry. So, to meet emerging challenges banks had to undertake a series of changes in original structure, functions, practices and marketing to popularize e-Banking.

Olalekan, A. (2011) conducted a study to determine if gender differences exist in electronic banking patronage in Nigeria. The study included a survey on gender patronage of e-Banking by individual customers in Abuja and Logos, Nigeria. For the survey, self administered research instrument consist of 29 items was used on a sample of 375 male and 375 female. The results of the study indicated gender differences in e-Banking patronage and also customer satisfaction was found to be low in this respect.
which calls for improvement in service delivery in terms of timeliness and consistency in standards.

**Rullis, H. and Sloka, B. (2011)** made an attempt to identify customers’ satisfaction with internet banking quality and customers’ loyalty in Latvia. There were five dimensions in the measurement scale for measuring the service quality of internet banking namely customer service, web design, assurance, preferential treatment and information provision. Total sample size was 1273. Respondents were asked to evaluate mentioned above factors in the scale 1-10, where 1 was no importance and 10 was very important. Descriptive survey method was used for the present study. Research results identified that internet banking users were satisfied with internet banking reliability, internet banking usability, internet banking quality. They had also positive attitude regarding internet banking and they were willing to recommend it. Internet banking quality could not be considered as factor that hinders adoption of internet banking and use of internet banking as environment for marketing.

**Sharma, R.D. and Abrol, S. (2011)** concentrated on online banking and its impact on customer satisfaction. Five point Likert type scale was used for the present study. The data was collected from 30 respondents and analyzed with the help of SPSS 15 by employing Factor analysis. The reliability was examined by using split half test and Cronbach alpha. The findings revealed that customers were quite satisfied with the online payment system, customer oriented services and customer support provided by the banks as it saved their time and efforts besides the system being cost effective. The study concluded that banks in order to make their customers committed to deal online must implement personalized aspect to the service and took a problem solving approach in delivering services to their customers.

**Abukhzam, M. and Lee, A. (2010)** investigated key factors affecting bank staff’s attitude towards e-Banking technology in Libya. This study was based upon semi-structured interviews. Data was gathered from a representative sample of employees, IT department managers and other relevant senior management in the chosen bank. It was found that Libyan bank staff was happy to adopt and implement technological alternatives to traditional manual procedures. Further, it was found that it was not only sufficient to merely consider these factors, but also to introduce mechanisms to ensure
that proper training was provided, technology was user friendly and secure and the senior management become more knowledgeable about both the technology and the types of additional support required by the workforce. Finally, there was a need for considerable efforts to set the priorities for implementation. More work was needed to provide better understanding of the difficulties of implementation.

**Auta, E.M. (2010)** empirically examined the impact of e-Banking in Nigeria’s economy using factor analysis in order to extract independent variables associated with e-Banking. It explored major factors responsible for internet banking based on respondents’ perception on various e-Banking applications. Exploratory research design was used for the collection of data. Structured 5-Point Likert type scale was used for the collection of data on a sample size of 750 bank customers. Results showed that e-Banking served several advantages to Nigerian banking sector. The customers' perception was that e-Banking provides convenience and flexible advantages. It also provided transaction related benefits like easy transfer, speedy transaction, less cost and time saving. However, the study showed that the Nigerian customers had security, access and not enough knowledge regarding e-Banking services rendering by banking sector.

**Nupur, J.M. (2010)** conducted this research to understand the impact of variables of e-Banking on customer satisfaction in Bangladesh. The study period was from 2006 to November, 2009 because customers enjoyed the e-Banking services newly during this period. Five service quality dimensions namely reliability, responsiveness, assurance, empathy, and tangibles had been established based on the SERVQUAL model. These variables had been tested in e-Banking to explore the relationship between service quality and the customer satisfaction. The data was gathered through survey interview by a structured questionnaire with 250 customers. The study showed that these factors were the core service quality dimensions for customer satisfaction in e-Banking. The study also explored that reliability; responsiveness and assurance had more contribution to satisfy the customers of e-Banking in Bangladesh.

**Nuseir, M.T. et al. (2010)** examined the relationship between the e-service quality dimensions and customer satisfaction of banks in Jordan. Using a structured questionnaire, the primary data was collected from 457 customers who had e-Banking
transactions with banks in Jordan. Multiple regression analysis was employed to test the research model and hypotheses. The research findings indicated that e-service quality dimensions such as website attributes, reliability, perceived risk, responsiveness and customization had a positive and significant effect on the overall customers' satisfaction and its elements individually. The findings also indicated that the strongest predictors, based on beta values, of e-service quality dimensions on the overall banks customers' satisfaction and its individual elements were responsiveness, website attributes and customization respectively.

**Ragoobur, V.T. et al. (2010)** investigated the behavioural intention to use internet banking in Mauritius. It probed into the extent to which internet banking was adopted among bank customers and investigated factors that affected the adoption of this new delivery channel. A sample of a 400 bank customers of different age groups and of different educational levels in both urban and rural areas across the country were chosen. Logistic regression method to survey data was used and the main results showed that perceived ease of use and perceived security and privacy were important factors that influenced the use of internet banking among customers. It had also been observed that having internet access at home promoted the use of internet banking. Further, reluctance to change had a significant negative impact on the adoption of internet banking. It was also argued that more robust marketing by banks, the inclusion of chat forum on the websites and awareness campaign concerning security aspects would encourage customers to use internet banking.

**Sadeghi, T. and Farokhian, S. (2010)** identified the factors effective in helping consumers feel satisfied with the electronic banking services in Iran. They validated a measurement model for customer satisfaction evaluation in e-Banking service quality based on different service quality models and theories such as Technology Acceptance Model (TAM), Theory of Reasoned Action (TRA) and Theory of Planned Behavior (TPB). They provided a model with 7 factors on the following dimensions: convenience, accessibility, accuracy, security, usefulness, banks' image and website design. Structural equations had been compared using ANOVA statistical testing of the average of the mark given to each factor among males and females. The results of this study were as follows:
i. Those who use electronic banking services had a higher educational background. This indicated that those with less education used the bank’s electronic services less than the educated people did.

ii. The greatest number of the users of electronic services was the customers of governmental banks. The third rank went to a private bank named Saman Bank. This could be due to customers having more confidence in governmental banks.

iii. Factors of accuracy, reliability, image, impression of the bank, management and website design were most correlated with satisfaction. The factors of security and privacy had the least correlation with satisfaction. This might also be due to the confidence customers had in electronic banking services, especially in governmental banks.

iv. Some of the factors such as convenience, security and usefulness in conducting financial affairs did not show a great difference between males and females.

v. Regarding the factor of availability, however, the results did exhibit a difference between males and females. Availability appeared to be easier for females.

vi. As far as accuracy and reliability factors were concerned, males were more suspicious of electronic banking. In terms of the bank’s image or impression, females had a better image and impression of the banking than did males.

vii. Overall no difference was observed in general satisfaction with electronic banking between males and females.

Safeena, R. (2010) conducted this study to evaluate those factors that manipulate the nature of customers towards online banking and their growing tendency towards the online financial institutions. A survey instrument in the form of questionnaire was developed through data collected from previous studies on acceptance of Internet banking. Likert scale was used in order to identify the respondents’ perceptions towards Internet banking adoption. Convenience sampling method was used. Total size of the sample was 52. The result showed that perceived usefulness, perceived ease of use, consumer awareness and perceived risk were the important determinants of online banking adoption. The study concluded that majority of customers were accepting online banking because of many favorable factors. Analysis concluded that usefulness, ease of use of the system awareness about online banking and risks related to it were
the main perusing factors to accept online banking system. These factors had a strong and positive effect on customers to accept online banking system.

**Salehi, M. (2010)** conducted a study to empirically assess the level of adoption of e-Banking in Iran. Five point likert type scale was employed in this research. A total of 600 respondents were taken as sample using descriptive survey method. Analysis of data was done with chi-square test. The findings revealed that Iranian banks had rapidly introduced innovative banking technologies and e-Banking services in recent years. Almost all banks had invested in expanding and improving the IT systems and a number of new e-Banking services had been developed. All major banks had declared e-business as one of the core strategies for the future developments. At the same time, e-Banking acceptance was depended probably on bank service quality, customer preferences and satisfaction. One of the main reasons for the growth of e-Banking was that, if handled correctly, it could significantly lower the cost of delivering products and services. The results also showed that the customers also strongly agreed with e-Banking in Iran. However, with banking customers growing increasingly comfortable with the digital lifestyle, their expectations from financial service providers had undergone a significant transformation, but Iranian customers were not aware about e-Banking in Iran. They were not fully understand the power of technology and seek to leverage it to enjoy better control over their banking operations. According to this condition they were at on the middle of the way.

**Azouzi, D. (2009)** conducted this study to find out if the current and prompt technological revolution altering the whole world had crucial impacts on the Tunisian banking sector. To achieve this purpose, an empirical research was carried out in Tunisia with regard to demographic variables affecting adoption of e-Banking services of bank customers. The study concluded that panoply of factors was affecting the customers-attitude toward e-Banking. For instance; age, gender and educational qualifications were seemed to be important and they split up the group into electronic banking adopters and traditional banking defenders and so, they had significant influence on the customers’ adoption of e-Banking. It also showed that despite the presidential incentives and in spite of being fully aware of the e-Banking benefits, numerous respondents were still using the conventional banking. Fear of loss because
of transactions errors or hackers played a significant role in alienating Tunisian customers from online banking.

**Haque, A. et al. (2009)** in their study investigated the determinant factors of consumers’ perception on E-Banking transaction in Internet banking by Malaysian bank consumers. The research framework was developed to testify the statistical relationships between consumer perceptions and E-Banking transaction. A sample of 230 respondents was taken for the present study. Factor analysis was performed to extraction and made initial decision on the number of factors underlying asset of measured variables of interest. Thereafter, multiple regression was estimated to anticipate the effects of the explanatory variables. Results showed that only secure transaction had significant impact on consumers’ perception about E-Banking transaction. Rest three factors regulatory framework, service quality and sufficient mechanism had negligible impact.

**Hua, G. (2009)** investigated the online banking acceptance in China by conducting an laboratory experiment to investigate how users’ perception about online banking was affected by the perceived ease of use of website and the privacy policy provided by the online banking website. For the investigation, questionnaire based upon 11 point Likert type scale was developed which included dependent variable- likely to use online banking, and two independent variables, perceived ease of use and privacy policy. The 110 undergraduate students in Chinese University were involved in the investigation. The study found that both perceived ease of use and privacy policy had a significant impact on user’s adoption of online banking. The study also investigated relative importance of perceived ease of use, privacy, and security. Perceived ease of use was of less importance than privacy and security. Security was the most important factor influencing user’s adoption.

**Khan, M.S. et al. (2009)** conducted this study to evaluate the service quality of internet banking (i-banking) services in India from customer’s perspective. A structured questionnaire containing 44 quality items was administered to various target groups. Seven quality dimensions, viz. reliability, accessibility, user friendliness, privacy/security, efficiency, responsiveness and fulfillment, were identified based on principal component factor analysis. A valid mathematical model was proposed to assess the overall service quality using regression analysis. The results showed that
customers were satisfied with quality of service on five dimensions such as reliability, accessibility, privacy/security, responsiveness and fulfillment, but least satisfied with the ‘user-friendliness’ dimension. Demographic analysis of data revealed that gender was hardly a bias for use and evaluation of service quality of i-banking in most of the cases across various categories of customers.

Rahim, M.M. and Jieying, Li (2009) conducted a study to measure customer satisfaction with internet banking applications. In this the development of an instrument to operationalise customer satisfaction following a rigorous mixed approach was carried out, and then this instrument was applied to measure customer satisfaction with internet banking applications in Australia. The study revealed that internet-based banking applications were gaining popularity among retail banking customers. The long term success of these applications was however influenced by customer satisfaction because it affected customers’ perceptions about banks’ innovative ability and customer caring intentions. Hence, measuring customer satisfaction with internet banking applications was important.

Riquelme, H.E. (2009) conducted this study to (a) identify which customer service and online attributes predict overall satisfaction, (b) to determine if satisfied customers use more online banking features than less satisfied customers and (c) to identify characteristics of less satisfied customers. The sample was drawn from one of the main banks in Kuwait, the Middle East. Multiple regression and discriminant analyses were used to analyze the data. The findings suggested that satisfaction could be generated through improving courtesy, content, timeliness and product and services offered. The latter being the most important factor in driving internet banking satisfaction. The findings suggested that the majority of the customers in the sample were satisfied or very satisfied with the service and online systems attributes. It revealed that companies that offer a wide product portfolio and relevant website content accompanied by prompt and courteous response created satisfaction online.

Santourdis, I. et al. (2009) investigated internet service quality and its impact on customer satisfaction in the banking context. Internet service quality was operationalised by adopting an instrument, which was based on SERVQUAL and consists of six dimensions, namely assurance, quality of information, responsiveness,
web assistance, empathy and reliability. The field research, which resulted in 184 valid questionnaires, was conducted among internet banking customers in Greece, a country with relatively low internet penetration rate. The findings confirmed, to a great extent, the validity of the instrument and highlighted the above average performance of service quality delivered by Greek banks via the internet. All quality dimensions were proved to be antecedents of overall customer satisfaction, with reliability having the most significant impact. Furthermore, quality of information was a crucial dimension driving the customer intentions for internet banking future usage. Finally, familiarization-related dimensions, such as empathy and web assistance, played a very important role in customers’ willingness to recommend the service to other people.

Singh, S. and Komal (2009) aimed to examine the scenario of ATM in three major banks i.e. SBI, ICICI & HDFC. The major objectives of this research were to analyze the present ATM facilities provided these banks, the factors affecting the choice of ATM, examine the impact of ATM on customer satisfaction by appraising the problems faced by the customers and to analyze the post purchase behavior of customers regarding the different banks under study. Primary data was collected through questionnaire. A sample size of 360 respondents had been taken including 120 for each bank. A personal visit had been made to these banks to know about the branches & ATM facilities provided by these banks. The present study was of analytical and exploratory nature. The secondary data was collected mainly from RBI monthly bulletins, Financial Express political weekly, various newspapers and other literature available in the field. To know the problems of ATM structured questionnaires had been used to collect the data from customers using ATM services. To analyze the data, various statistical techniques such as average, standard deviation and normal distribution had been used as per the requirement of the data. F-test had also been used to analyze the variances. It was concluded that material satisfaction level was highest in SBI, then second was ICICI Bank and third was HDFC Bank. This was due to the size of the respective bank and number of years of its establishment. But according to abstract customer satisfaction i.e. in terms of efficiency and performance, HDFC Bank was at 1st position, 2nd was ICICI Bank and 3rd was SBI.
Wahab, S. et al. (2009) conducted a study to measure technology trust and E-Banking Adoption among bank customers. The main objective was to investigate the relationship between technology trust and CRM performance, the relationship between CRM performance and e-Banking adoption and to investigate the mediating effect of CRM performance in the relationship between technology trust and e-Banking adoption. A sample of 307 respondents from academic staff of three universities in the northern state of Malaysia was taken for the study. The research concluded that the technology trust was important for CRM performance and e-Banking adoption. Furthermore, CRM performance had a significant impact on e-Banking adoption. The analysis result also supported the mediating effect of CRM performance on the relationship between technology trust and e-Banking adoption.

Yang, J. and Ahmed, K.T. (2009) investigated in their empirical study about the major issues and challenges in the development of e-Banking applications faced in relatively underdeveloped nations based on a case study in a typical underdeveloped nation–Bangladesh. The research objective was to investigate the current trend and development of e-Banking industry and therefore to provide managerial insights for the banking industry in those underdeveloped nations. The primary data for this study was collected through a carefully designed survey questionnaire, and in the survey, over 18 commercial banks in this underdeveloped nation were randomly selected. This research showed that even in a least-developed developing nation, the application of e-Banking could help their local banks to reduce related operating costs and provided a better and fast service to their customers. However, this research also revealed that there was a huge gap between those well developed and new emerging economic powers and those least-developed nations in terms of development and application of e-Banking services. For example, there was still a huge population in these least-developed nations were either not familiar with the e-Banking services and were not using it at all, although e-Banking service had been offered by local commercial banks. In addition, there was a large shortage in those least-developed nations in terms of high quality IT professionals to design, develop, and operate their e-Banking systems.

Kaleem, A. and Ahmad, S. (2008) examined 18 potential attributes covering the benefits and risks associated with electronic banking in Pakistan. Primary sources were
used to collect the data and were analyzed via frequency analysis and mean score analysis. The present study used a survey that was designed and conducted in Lahore in 15 major commercial banks and on 207 bank employees. The results suggested that bankers in Pakistan perceived electronic banking as a tool for minimizing inconvenience, reducing transaction costs and saving time. Similarly, they believed that electronic banking increased the chances of government access to public data, increased the chances of fraud and that there was a lack of information security. Bank personnel profiles were further analyzed in relation to their perceptions to identify different segments among the target respondents. The results showed that public bank employees who had professional degrees considered ‘minimizing transaction costs’ and ‘reduction in HR requirements’ as the most and the least important benefits of electronic banking respectively. Private bank employees, who had masters or bachelor degrees, and less than 10 years experience, perceive ‘time saving and minimizing inconvenience’ as the major benefits of electronic banking. However they did not consider ‘reducing the risk of carrying cash’ as an important benefit. Branch managers who were directly responsible for the operations viewed ‘facilitates quick response’ as the most important benefit of electronic banking. Lastly, private bank employees who hold masters degrees and have more than 10 years working experience did not perceive ‘improvement in service quality’ as an important benefit. Interestingly, bankers in all segments considered ‘government access to data’ as the biggest risk associated to electronic banking.

**Kamakodi, N. & Khan, B.A. (2008)** conducted a survey on bank customers about their views on electronic banking channels in India. For the collection of data on bank customers, a well-structured questionnaire was given to 292 bank customers of 20 bank branches of 15 cities in India including three metropolitan cities and analysed through percentage statistical technique. The results indicated that the majority of the customers were very comfortable and willing to use e-Banking channels. At the same time, over 80% felt that ‘human contact is necessary’. This imposed a challenge on banks. Technology alone could not give a sustainable competitive advantage for the banks. When all banks introduced IT in their technology, IT would lose its position as a differentiator. Beyond a point, IT along with ‘personal touch’ would be necessary for the
banks to retain the existing clients and attract new clients. Banks had to incorporate this in their IT and operational strategy.

Lai, Jung-YU (2008) in their study attempted to explore what factors affect corporate customer satisfaction with e-Banking (CCSEB) which was one surrogate variable of success of e-Banking services. For the purpose of collection of data, 5-Point Likert type scale consisted of 30 questions divided into 4 sections was administered on 178 respondents collected from Taiwan companies. The analysis was implemented by adopting structural equation modeling (SEM) of the CALIS procedure of SAS 8.01 program, offering calculations of parameters and examinations of fit close to LISREL. The results supported that environmental, organizational, and globalization factors would affect customer satisfaction with e-Banking significantly. Furthermore, there existed a reciprocal relationship between customer satisfaction and post-usage favorite behavior.

Murali, R. et al. (2008) evaluated consumer perceptions on quality of e-services and Internet banking adoption in Malaysia. E-service quality variables that consisted of ease of use, appearance, communication and incentive were used for the present study. Data was gathered using Likert type scale from a total of 150 respondents using the judgmental sampling method of the Klang Valley area. The results of questionnaire were entered and processed into SPSS 13. The analysis methods that applied to the study were Frequency analysis, Chi-square test and Analysis of Variance. Results showed that 72% of the respondents had already adopted the Internet banking. 50% of the respondents pictured themselves as light users of Internet banking. Internet banking was perceived by the users as a useful tool to manage their financial matters. Ease of use was one of the factors considered acceptable by the Internet banking users. Most of the respondents demanded for faster download access to the Internet banking. Based on the analysis of variance among Internet user and non-user in E-service quality preferences, the respondents’ mean differ in “ease of use” variable in terms of concise instructions and “reliability” variable on little time to download the website. Analysis of variance in E-Service quality preferences among Internet Banking adopters (light, medium, and heavy users) did not vary. The only difference was in the “incentive” variable preference. The medium and heavy users might not need as much incentive as the light user. The medium and heavy
users were the early adopters who already relied and realized the importance of Internet banking. It was different with light user where incentive should be given appropriately to them.

**Singhal, D. and Padhmanbhan, V. (2008)** explored the major factors responsible for internet banking based on respondents’ perception on various internet applications. For this various factors which contributed to the customers’ perception such as convenience, flexible virtual banking system, reliability, time factor, real time access to information, saving transaction cost, online bill payments, digital signature for security, faster transfer, easy to use, user friendly, low transaction fees, any time and any where banking facility, access to current and historical transaction data, facility of fund transfer to third party were taken for this study. Primary data on a sample of 61 respondents was collected using an online survey using a questionnaire consists of 33 items and factors analysis technique was employed. The results indicated that ‘utility request’, security’, ‘utility transaction’, ‘ticket booking’ and ‘fund transaction’ were major factors. Out of total respondents’ more than 50pc agreed that internet banking was convenient and flexible way of banking and it had various transaction related benefits. Thus, providing internet banking was increasingly becoming a “need to have” than a “nice to have” service.

**Uppal, R.K. (2008)** analyzed the quality of e-Banking services in the changing environment. The present study was mainly concerned with the Indian banking industry in general and particular those banks that were producing service through e-channels i.e. e-banks. The sample size of bank customers was 25. The data was collected through pre-tested and well structured questionnaire in Ludhiana city, Punjab. The study concluded that the customers of e-banks were satisfied with the different e-channels and their services in the spread of e-Banking services i.e. they preferred e-delivery channels for the fulfillment of their banking needs than the traditional banking system.

**Abid, H. and Noreen, U.C. (2007)** in their research provided a connected study of two broad areas of e-readiness with respect to online banking especially for the Pakistani banks and the banking consumers. These areas were:

i. Electronic readiness of the banking consumers for adoption of online banking.

ii. Online banking implementation and adoption by the banking sector in Pakistan.
A questionnaire was developed to collect data from the banking consumers, which consisted of two sections to which there were 145 respondents forming a “Non Probability Sample”. The sample data consisted of 34 Online Banking users while 111 were non-users. The analysis of sample data consisted of online banking users and non-users indicated that the Pakistani people were reluctant in the adoption of e-Commerce and hence online banking. Cash culture was still prevalent in Pakistan compared to the plastic money replacement that had been adopted in most of the developed countries. The most important reasons were lack of trust, non-availability of infrastructure, security and service charges. Approximately 23% consumers used a form of preliminary products of e-Banking and were willing to have more products, services and transactions through this medium.

Hanudin, A. (2007) studied technology acceptance of internet banking among undergraduate students in Malaysia, based on modified version of Technology Acceptance Model (TAM). The model employed perceived usefulness (PU), perceived ease of use (PEOU), perceived credibility (PC) and computer self-efficacy (CSE). The first two were two initial constructs for TAM model. The rest were new constructs to be included in the model in order to have an extension of TAM model that better reflected the students’ view. With respect to the sampling, a convenience sampling was utilized to survey about 250 students at the Labuan School of International Business and Finance. 5-Point Likert type scale was used for the collection of data. Analysis of data was done with the help of Factor Analysis and Multiple Regression Analysis. The results suggested that perceived usefulness (PU), perceived ease of use (PEOU) and perceived credibility (PC) had a significant relationship with behavioral intention. Further, these measures were good determinant for undergraduate acceptance for internet banking. Results also suggested that PU and PEOU had a significant relationship with computer self-efficacy (CSE).

Juneja, A. (2007) conducted a study to know the level of satisfaction of the customers from e-Banking facilities provided by State Bank of India in Fazilka Town, Punjab. Customers’ satisfaction from different e-Banking channels like ATM, Credit Card, Debit Card etc. was measured with the help of a well structured questionnaire. A random sampling technique was used for the present study. Total size of the sample was 200.
Results revealed that the people were not so much satisfied with these facilities because of the improper maintenance by the bank. Also only a few e-delivery channels were provided by the bank to its customers. So the customers were not able to gain much from these and their satisfaction level was low. So, the research concluded that not only the providence of, but adequate and proper providence of e-delivery channels was the necessary condition for gaining customers’ satisfaction.

**Kam, B.H. and Riquelme, H. (2007)** examined a sample of Australian internet banking users based on their frequency and length of usage. Data for this study came from a convenience sample of 203 respondents who had operated at least one Internet banking account in Australia during the preceding four months prior to the survey. The questionnaire was placed online. Respondents were recruited using a snowball approach. The questionnaire used comprises five main sections: general Internet usage, Internet banking usage, usage frequency of Internet banking services, satisfactions with Internet banking service qualities, and demographics. For the analysis of the data correlation and discriminant analysis techniques were used. The results showed that as customers became more acclimatized to internet banking; they used these services more often. Further, daily and frequent internet banking users were more pleased with ease of use and aesthetics and tend to use internet banking more for electronic fund transfer and foreign exchange transactions than the less frequent users. The findings suggested that banks needed to develop more customized services since there were distinct market segments with different banking requirements.

**Padachi, K. et al. (2007)** analysed the factors that influence the adoption of internet banking for the case of emerging African economy of Mauritius. For the collection of data, 5-Point Likert type Scale was used in a survey conducted on 200 respondents. For the analysis of data, t-test, z-test and Factor analysis were used. Results indicated that the mostly used services were inter-account transfer, payment to other personal account, transfer to credit card account and recharge mobile phones among others. Comparing demographic variables of the internet banking users to the non-internet banking users, the analysis also revealed that there was no significant difference between the two groups of users with respect to age group and the education level of the respondents. This was however not the case for the mean monthly income. Using
factor analysis to identify the factors affecting the adoption of internet banking in Mauritius, it was found that the most significant factor was ease of use and that other important elements featured reluctance to change, trust and relationship in banker, cost of computers, internet accessibility, convenience of use, and security concerns. Further analysis using cross tabulations suggested important statistical relationship between awareness, access to Internet facility, length of banking relationship, people working in the Internet banking/finance sector, education level in the category ‘post graduate’ and also income group with the usage of internet banking.

Srivastva, R.K. (2007) focused on what were the customer’s perceptions about internet banking and what were the drivers that derived consumers, how consumers had accepted internet banking and how to improve the usage rate. Qualitative exploratory research using questionnaire was applied. 500 respondents were selected for study after initial screening. They were all bank customers. The data was analysed through percentage and Chi-square test. The study revealed that education, gender and income played an important role in usage of internet banking. The research corroborated the conceptual framework stating that if skills could be upgraded there would be greater will to use internet banking by consumers. Inhibitory factors like trust, gender, education, culture, religion, security and price could have minimal effect on consumer mindset towards internet banking. The study also revealed that the perception of the consumers could be changed by awareness program, friendly usage, less charges, proper security, and the best response to the services offered.

Srivatsa, H.S. and Srinivasan, R.C. (2007) used psychographics to study the banking channel adaptation and the trends in the retail banking scenario in Karnataka. A sample of 249 respondents was taken and distributed on the basis of various demographic variables. Various factors which were taken for the study were channel financial security, channel information security, technical orientation of customers, technology access, innovation, third party influence on channel choice, usage convenience, personal comfort, information availability and inertia for change. A questionnaire consisted of 111 questions was taken as an instrument for survey. Data was analyzed with the help of univariate analysis and exploratory factor analysis techniques. Results depicted that channel convenience, channel control and channel security played an
important role in the selection of channels. Some regions still see people who were struck to branch banking and were not ready for a change in mindset. Across all the four regions, tele-Banking was not popular since it was not perceived as a safe and convenient channel.

**Uppal, R.K. (2007)** conducted a study on the perceptions of bankers for internet based e-Banking Services related with important issues like collaborative culture, training and development & knowledge management. The perception of bank employees experienced in e-Banking system were surveyed covers 60 employees of e-banks located in selected districts of Punjab. Descriptive survey method was used for the collection of data with a well structured questionnaire. The study concluded that there exists collaborative culture and employees were satisfied with the working of e-channels and training programmes organized by e-banks, but not much satisfied with the knowledge management and behavioural aspects of e-Banking. The employees experienced some frustration and a major problem of lack of knowledge of e-channels and their operating ways while dealing with these channels, were the most prevalent ones.

**Wang, C. and Wang, Z. (2007)** made an attempt to gain a better understanding of how Internet affects service quality in the banking sector. A qualitative research was adapted and case studies were conducted from both customer and banking perspectives in this study. Additionally, personal interview was selected as the source for data collection on three persons two from customer side and one from banking perspective side. The result of the present study showed that the Internet was a convenience tool available whenever customers need it. It was also found that the Internet had improved the factors in service quality like responsiveness, communication and access. Internet had an important and positive effect on customer perceived banking services and the service quality had been improved since the Internet had been used in banking sector. Furthermore, the study offered suggestions to banking managers to allocate their resources on the dimensions i.e., reliability, responsiveness, security, communication and access to improve service quality according to its relative importance since the Internet had been used.
Agboola, A.A. (2006) investigated electronic payment systems and tele-Banking services in Nigeria. Thirty six out of the 89 banks in Nigeria as at the end of 2005 were selected for the study. Questionnaire method was used to gather data from bank workers. Various statistical techniques were used for the analysis of data. The findings revealed that there had been a very modest move away from cash. Payments were now being automated and absolute volumes of cash transactions had declined. The result of the study revealed that tele-Banking was capable of broadening the customer relationship, retain customer’s loyalty and enable banks to gain commanding height of market share if their attendant problems such as, ineffectiveness of telecommunications services, epileptic supply of power, high cost, fear of fraudulent practices and lack of facilities necessary for their operation were taken care of.

Christophr, G. et al. (2006) investigated how banks were developing and utilizing new alternative distribution channels to reach their customers and examines customers’ choices between electronic banking and non-electronic banking in Newzealand. The data for this analysis was obtained through a mail survey sent to 1960 households in Newzealand. The decision to use electronic banking was hypothesized to be a function of service quality dimensions, perceived risk factors, user input factors, price factors, service product characteristics, individual factors and demographic variables such as age, gender, marital status, income etc. Logistic regression was used to analyze the data. The findings showed that the service quality, perceived risk factors, user input factors, employment and education were the dominant variables that influence consumers’ choice of electronic banking and non-electronic banking channels.

Floh, A. and Treiblmaier, H. (2006) investigated the importance of antecedents of online loyalty such as trust, quality of the Web site, quality of the service and overall satisfaction rather than investigating which factors drive customers to use online banking instead of offline banking. This study addressed the problem of how to keep customers online and loyal to a specific supplier. A survey among more than 2,000 customers of an Austrian online bank was conducted and a structural equation modeling approach was used to gain important insights into how customer retention in the online banking business could be ensured. Satisfaction and trust were identified as important antecedents of loyalty. Additionally, the moderating role of consumer
characteristics (gender, age, involvement, perceived risk and technophobia) was supported by the data.

Kukkudi and Deene (2006) studied the impact of ATMs on customer satisfaction with special reference to State Bank of Hyderabad in Gulbarga district with sample size of 100 respondents using descriptive survey method. Data was analysed by using percentage as a statistical technique. It concluded that ATMs were used mostly by the age group of 25-35 years comprising more male members. 79pc uses ATMs weekly, where 85pc were aware about the restrictions concerning ATMs usage and the numbers of ATMs were sufficient to meet current needs.

Sakkthivel, A.M. (2006) aimed at providing a specific focus to identify the impact of demographics in influencing Indian Internet users in consuming different services online. For this purpose primary data was collected through descriptive survey method on 570 internet users in Banglore city, India. The results revealed that age and occupation had significant impact on consuming different categories of services online. The study also showed the significance of demographics influence on online consumption of services in the growing Indian market. There were enormous opportunities present for online marketers to tap the potential of rapidly increasingly online market space in India. The understanding and mapping of online consumers through demographics could enable their focus better.

Uppal, R.K. (2006) studied the impact of computerization on the performance of public and private sector banks. The study was based on primary and secondary data. Primary data was collected through descriptive survey method. Percentage statistical technique was used for the analysis of data. The study concluded that the performance of fully computerized banks (HDFC, PNB, IDBI, ICICI and OBC) was much better than the partially computerized banks. In inter-bank group comparison, all bank groups showed significant difference in profitability and productivity. Primary survey concluded that majority of the customers were satisfied with computerization of banking services where urban sector respondents showed keen interest in computerization of banking business.

and to examine the data, a factor analyses and multiple regression analyses were conducted. Results suggested that although the banking sector in the United Arab Emirates was a regional leader, internet banking in the United Arab Emirates was yet to be properly utilized as a real added value tool to improve customer relationship and to attain cost advantages. It revealed that convenience and security of internet banking transactions had a significant impact on satisfaction.

**Dogarawa, A.B. (2005)** conducted a study to examine and assess the impact of e-Banking services on customer satisfaction in the Nigerian banking industry. The study consisted of respondents drawn from customers of First Bank Nigeria Plc, Zenith Bank Plc and Guaranty Trust Bank Plc in Lagos, Port Harcourt and Kaduna. A sample of 180 persons (60 in each bank) that maintained current account with these banks was drawn. The sample drawn was based on judgmental sampling approach. Questionnaire as instrument for collecting our primary data was used and this data was analyzed with the help of Chi-Square test. The major findings of this study were as follows:

i. Many banks’ customers in Nigeria were fully aware of the positive developments in information technology and telecommunications which led to the introduction of new delivery channels for Nigerian commercial banks’ products and services. The aim was to satisfy and get customer delighted. Most customers however, still patronized the bank branches and found interaction with human tellers as very important.

ii. It also found that customers enjoying electronic banking services were still not satisfied with the quality and efficiency of the services. This was expressed in the number of times customers physically visit banks and length of time spent before such services are received.

iii. Customers’ perception of and reaction to these developments were issues of concern to both Government and banking industry. A lot need to be done to create confidence in the minds of customers about the benefits and security of the new delivery channels. Lack of patronize for electronic banking products was expressed in lack of confidence.

**Leelapongrasut, P. et al. (2005)** conducted a study to investigate level of Internet banking services quality in Thailand and for comparing the overall services quality of
Internet Banking and factor of Internet banking service between each bank and each dimension of quality. The sampling groups in this research were customer who used the banking service via Internet system and the customer of D-Computer Co., Ltd. who usually used Internet Banking services such as inquiry about outstanding balance, fund transfer between accounts, and transfer payment for public utility. The sampling group specification of this research must use Internet banking services at least once a month. The research tools were questionnaires in the Web page form. Questionnaires were adapted from the tools that were used to evaluate the service quality called “The dimension of quality by David A. Garvin” by evaluating the quality of eight dimensional services: Performance, Features, Reliability, Conformance, Durability, Aesthetics, Serviceability and Perceived quality. During the sampling survey 300 questionnaires that were answered completely were considered. For information analysis fundamental statistics to analyze the characteristics of sampling group and test the relative variable factor by means of Chi-square were used and obtain the result to build a variance factor linear prototype. The results were as follows:

i. The quality level of internet banking service of commercial banks in Thailand in the perspective of performance was different in each bank.

ii. By weighting the importance of criteria used to evaluate the Internet Banking service quality in Thailand, the most important was the dimension of reliability, serviceability and durability. The less important was in dimension of perceived quality.

Laforet, S. and Li, X. (2005) investigated the market status for online/mobile banking in China. The demographic, attitudinal and behavioural characteristics of online and mobile bank users were examined. Respondents from six major Chinese cities participated in the consumer survey. Results showed that Chinese online/mobile bank users were predominantly males, not necessarily young and highly educated, in contrast with west. The issue of security was found to be the most important factor that motivated Chinese consumer's adoption of online banking and main barriers to online banking were the perception of risk, computer and technological skills and Chinese traditional cash-carry banking culture. The barriers to mobile banking adoption were lack of awareness and understanding of the benefits provided by mobile banking.
**Mobarek, A. (2005)** conducted a case study on e-Banking practices and customer satisfaction in Botswana and more over in the city of Gaborone where there was a higher probability of people being aware and knowledgeable of e-Banking and its services. The scope of the study was restricted to the 4 major commercial banks in Botswana: Barclays Bank, First National Bank, Bank of Baroda and Standard Chartered Bank. The sample size was 100 respondents of these banks. Judgmental sampling method used for selecting the sample. The study considered some hypotheses in order to assess the problems that banks were currently facing regarding e-Banking in Botswana and could thus form appropriate strategies that could be implemented and these helped to form the ground from which research was done in order to arrive at the most accurate solutions to the problem under study. The study concluded that Banks found it difficult to compete on price and need to look at other ways to retain customers. As customers became more sophisticated, it became essential for the banks to consider the use of technology to respond to their continuously changing requirements. The research found that e-delivery channels were lacking in meeting the demands of the customers by not making them aware of e-Banking and using obsolete or not too up to date technology. So it was suggested that banks should drawn themselves in all the intricacies regarding e-Banking to determine ways that would affect the customers in Botswana and used it to their maximum benefit.

**Noor, M. and Elyana, N.F. (2005)** conducted this research to identify the relationship between service performance rates and customer satisfaction level with their loyalty towards the internet banking. This was a quantitative research and used both primary and secondary data. Primary data was collected through a well structured questionnaire administered on 435 bank customers. The sample was randomly selected at the area of Klang Valley. The results showed that most of the respondents rated the Internet banking service performance as good and affected their loyalty towards Internet banking. But the Chi-Square test indicated that there was no association between service performance rates and customer loyalty to the Internet banking. It contrasted with the relationship between customer satisfaction level and loyalty where the Chi-Square test indicated that there was relationship between both variables. It means that customer satisfaction level had significant impact on customer loyalty. By improving
service performance such as response time and feedback and also customer satisfaction through adding more features and concern on security issues would increase customer loyalty toward internet banking.

Gonzalez, M.E. et al. (2004) developed a case study for Spanish banks and considered both external and internal service management issues and subsequent service innovations based on the framework of quality function deployment (QFD). The application of the customer window quadrant (CWQ) and the action plan matrix in the analysis of customer and service elements constituted a different approach for QFD. The major findings of their case study were as follows:

i. Spanish banks had been focusing their resources on a defensive strategy that was aimed largely at keeping customers from jumping to online banks. However, this new venture would offer their Spanish-speaking customers throughout the world an online alternative.

ii. Project managers and quality improvement managers could benefit from the QFD methodology and tools to link customer requirements to the internal procedures of the firm in order to satisfy and exceed customer requirements. To accomplish this, a methodology of analysis was needed in the banking industry based QFD as a baseline for the analysis of customer requirements.

Kumar, D. and Saini, A.K. (2004) in their study found out the acceptance of e-Banking among bank employees. For this a survey was conducted with the help of close ended questionnaire contains a number of questions. The convenience sampling method was used to select the respondents for the present study. For this purpose total 278 sampling elements comprised of people consisting of different age groups ranging from less than 30 to above 50 years, gender, qualifications, living area and employment status were also covered. The data was collected from the different locations in Haryana. The major findings of this study were described as under:

i. All employees irrespective of location of working of age accepted that the ICT was useful in the banking system.

ii. Employees in the rural area were not so confident with the computer as the employees in the urban area. So more training should be given to the employees of the rural area.
iii. Young employees felt that the training was useful but as the age increases they felt that it was not very useful.

iv. All employees admitted that electronic banking was better than the traditional bricks and mortar banking.

v. Employees in the rural area disliked electronic banking because there was no personal touch.

vi. In the urban area where many of the branches were CBS network, connectivity was a major hurdle.

From the above findings it could be concluded that most of the employee accepted electronic banking. However, there was difference in the rural and urban area. Employees in the urban area were more confident with the computer as compared to the rural area. This study also discovered that age and location influenced electronic banking adoption. There were higher levels of adoption among younger persons as compared to elders.

**Simone, G. et al. (2003)** investigated whether a gap exists between customer expectations of Internet Banking and the satisfaction of these expectations in the virtual environment by South African banking institutions. The research was operationalised by means of a survey amongst internet banking users. The research focused specifically on the way customers of Internet banking sites felt about the service and functionality they received on the Internet and whether their expectations of this banking service were being met. For this study several factors were taken into consideration such as cost savings, customized products and services and more personalized attention.

The findings revealed that customers were happy with their basic Internet banking experience. What they were not satisfied with, were cost issues and the lack of personalized service. Issues such as speed and more advanced functionality also played a minor part. In addition, Internet banking customers felt there was a lack of integration across banking channels. Overall, the research indicated that basic user expectations were being met by Internet banks in South Africa. However, unless this satisfaction was maintained and extended, banks could possibly lose customers to the already emerging virtual, innovative and more cost-effective alternative banks of the future.
Sohail, S. and Shanmugham, B. (2003) examined in their study the current trends in the e-commerce revolution that had set in motion in the Malaysian banking sector and reports on an empirical research that was carried out in Malaysia to study the customers’ preference for electronic banking and the factors, which were considered by them, influenced the adoption of electronic banking. Results based on the analysis of data collected through descriptive survey method by using several statistical techniques relating to 300 respondents indicate that while there was no significant differences between the age and educational qualifications of the electronic and conventional banking users, some differences exists on other demographic variables. Analysis further revealed that accessibility of Internet, awareness of e-Banking, and customers’ reluctance to change were the factors that significantly affected the usage of e-Banking in Malaysia.

Liao, Z. and Cheung, M.T. (2002) investigated consumer attitudes toward usefulness and willingness to use Internet e-retail banking. The survey was undertaken in Singapore, because its geography and well-developed infrastructure implied similar and small physical and tele-communication costs, thereby highlighting the differences between traditional and Internet-based retail banking upon the latter’s introduction. The data was analysed through regression analysis and found that individual expectations regarding accuracy, security, network speed, user-friendliness, and user involvement and convenience were the most important quality attributes in the perceived usefulness of Internet-based e-retail banking. The crucial factors that affect an individual’s decision to use or not to use online services the individual’s age, the difficulties of using the Internet, the fear of changes in the banking sector due to technological development and the lack of information concerning products and services provided to customers through electronic delivery channels. Factors such as the speed of transactions or the cost of using the Internet had little impact on an individual’s final decision.

Lim, B.E. (2002) investigated the impact of technological innovations on customer satisfaction in the banking sector of three countries. The group surveyed 300 bank customers from Singapore, Malaysia and Thailand to assess their banking preferences and behaviours. Data was analysed through a set of various statistical techniques. The findings indicated that ATMs were the most frequently used service in the three
countries. For the older age group and lower education groups, customers preferred the human touch in the form of a customer service officer, for example, to technological innovations. Of the three countries, the respondents in Thailand preferred to have banking service delivered by the human touch. It was found that Customer-connecting Technology, for example, Call Centre, helped to create more satisfaction for bank customers. The findings also revealed that technology did indeed help to create more satisfaction among bank customers as long as the services are "reliable and accurate" and do not incur extra charge.

Sohail, S. (2002) examined the current trends in the e-commerce revolution that had set in motion in the Malaysian banking sector and reports on an empirical research that was carried out in Malaysia to study the customers preference or electronic banking and the factors, which they considered influenced the adoption of electronic banking. Results which were based on the analysis of data by using differential statistical techniques relating to 300 respondents indicate the following:

(i) While there was no significant difference between the age and educational qualifications of the electronic and conventional banking users, some differences exist on other demographic variables.

(ii) The accessibility of internet, awareness of e-Banking and customers' reluctance to change were the factors that significantly affected the usage of e-Banking in Malaysia.

Jun, M. and Cai, S. (2001) identified bank customers’ perceptions of service quality dimensions using quantitative techniques. They conceptualized internet banking service quality based on three quality perspectives; banking service product quality, customer service quality and online systems quality. Perceived risk was considered an important risk attribute that impacted on the consumer decision-making process when buying a product or consuming some services. Electronic banking was a technology enabled channel and consumers' perceive the use of electronic banking as a risky decision because technology enabled services exhibit invasive technological, unfamiliar and indefinite stimuli. Therefore, when consumers decided to use electronic banking, they were exposed to uncertainties such as the availability, the compatibility, and the performance of the complementary electronic banking channels. The degree to which
individuals accommodate these uncertainties might have gender implications. Consumers perceived greater risks when buying services than tangible goods. Services were perceived as riskier than products because services were intangible, non-standardized, and regularly sold without guarantees or warranties. Consumers could hardly ever return a service to the service provider since they have already consumed it, and some services were so technical or specialized that consumers possess neither the knowledge nor the experience to evaluate whether they were satisfied, even after they had consumed the service.

2.2 RESEARCH GAP

From the review of literature in the chapter, following research gaps are found out:

- When all the banks in Punjab are investing heavily on their information technology infrastructure, their IT strategy should incorporate the basic likes and dislikes of bank customers. There are not much research work documented on the preferences and satisfaction of bank customers of public and private sector banks in Punjab. This comprehensive research work intends to bridge this gap to some extent.

- Most of the bank customers still hesitate in adopting e-delivery channels for their transactions. This is due to the failure of Bank’s management in recognizing their needs and desires. So, Bank’s management failure to identify e-customers’ desire and the ways in which the satisfaction of e-bank customers can be increased is one kind of research gap.

- Today bank frauds have become a routine matter. Most of the frauds are done because of the lapse in security measures provided by the banks to their customers in the use of e-Banking. There is not so much empirical research work done on the security problems in the use of e-Banking channels in Punjab. So, this study intends to find e-customers’ problems from these e-delivery channels and their various demands from the banks regarding their safer use.

- Most of the research work done earlier mainly focuses theirself on a small number of parameters related to customers’ satisfaction in e-Banking, but this study measures e-customers’ satisfaction by using large number of parameters related to e-Banking services.
Most of the research work done earlier mainly focuses theirself on a small number of dimensions of e-customers' satisfaction, but this study focuses upon a large number of dimensions of e-Banking for evaluation of customers’ satisfaction.

The role of bank employees has increased many times with the introduction of e-delivery channels because the bank employees not only provides e–delivery channels to bank customers, but also guide them for their proper use and solve various type of problems of bank customers regarding their use. There is not so much empirical research work documented on the perceptions of e-bank employees regarding various e-delivery channels. This comprehensive research work intends to bridge this gap to some extent.