Chapter 2
Review of Literature

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2.1 Introduction

The need for review of literature stems from the reason that it familiarises the researcher with the concepts and conclusion related to his or her present study which has been evolved through the earlier analyses. A literature review is a critical discussion and summary of previous works that are of ‘general’ or ‘specialised’ reference to the particular area. It specifies how the present work is related with the previous works. It also shows the right ways and means to reach the target or to make a right attempt on the present topic. In this context, the researcher has made an attempt to study the previous literature relating to the topic. There are various modes of E-Banking and the study is restricted only to four important channels such as Internet Banking, Credit Cards, Mobile Banking and the ATMs. The previous studies made in these areas of research are reviewed below.

2.2 Review of Previous Literature

2.2.1 Electronic Banking

In his paper “Consumer Evaluations of New Technology-Based Self-Options: An Investigation of Alternative Models of Service Quality”, Dabholkar (1996) was of the opinion that factors of technology based banking services like control, speed, convenience, ease of use and enjoyment might benefit the customers. Customers can decide when, where and how to utilise the services which are technology-based thereby exercising more control over their banking needs. Services which were time saving, cost saving and energy saving might pull the attention of the customers. Some customers expect better service quality when using technology based banking services.

According to Parasuraman (2000) customer traits shape perceptions and views of technology based banking services. In his paper “Technology Readiness Index (TRI): A Multiple-Item Scale to Measure Readiness to Embrace New Technologies”, he classified the customers into technology-oriented customers and technology-challenged customers to understand customer perceptions of technology based banking services. Technology-oriented customers embrace technology and find it beneficial and advantageous. Such customers are more likely to have a positive perception of the overall quality of technology based banking services. Technology-challenged customers think of technology as a drawback and a source of frustration. Such customers are more likely to have a negative perception of the overall quality of technology based banking services. So he finally suggested a technology readiness construct consisting of four main factors as optimism, innovativeness, discomfort and insecurity which can be used to assess people’s readiness to adopt technology.
Lee and Allaway (2002) in their paper, “Effects of Personal Control on Adoption of Self-Service Technology Innovations” commented that customer perceptions of technology based service quality were dependent on the perceived level and complexity of the interaction with technology based service. Customers were willing to adopt technology based services depending on their perceived competence, superiority and mastery over the technology based services. According to them, perceptions of technology based services are dependent on a complex composite of predictability, controllability and outcome desirability. Based on experimental research, they found that those with high personal control over technology would perceive lower risk and enhanced value, which induces a greater intent towards adoption. In contrast, customers who perceive technology based service to be complicated, unpredictable, or beyond their control would probably perceive a low service quality and would be unwilling to adopt the technology based services.

Kesaven (2007) in his paper “A Study on the Customer Perception towards E-Banking in Ferozepur District” said that the mostly used E-Banking services in the study area are inter-account transfer, payment to other personal account, transfer to Credit Card account and recharging mobile phones. Comparing demographic variables of the Internet Banking users to the non-Internet Banking users, the analysis revealed that there is no significant difference between the two groups of users with respect to age group and the education level of the respondents.

Premkumar and Esthen Gnanapoo (2008) in their paper “E-Banking - The Essential Need of Today” opined that the information technology is invading the banking sector. Success will be in the hands of those banks, which use the right technology. And for this the banks are required to restructure, re-invent and re-engineer themselves to meet the necessary performance improvement and get the competitive edge. E-Banking, the latest yield of information technology has ushered in an era which is renovating the entire functioning of banks. The tilt in the banks from traditional to modern E-Banking service has been welcomed due to its advantages, but banks in India are taking time to get rooted. Banks are slow but are going to offer further more E-Banking services to keep pace with the evolving pattern of customers' demand.

Mahmood Zaigham (2009) in his paper “Attitudes towards the Use of E-Banking: Result of a Pilot Survey” aimed to report on the opinions of the general public towards the use of E-Banking. The main reasons for using E-Banking found in his study were convenience, availability and saving of time. The non-E-Banking users quoted the reasons like lack of social dimension and lacking of computing skills on their part. Nearly half of the
respondents found the E-Banking website content to be excellent or good; however, the survey noted concerns regarding the ease of use of these websites. Further it was noted that the help facility appears to be generally good or excellent. Security of information does not appear to be an issue, at least for those who use E-Banking. Approximately, half of the population are using E-Banking, and their use of online services will increase in the future. The non-users pointed out the reasons like lack of knowledge of current technologies and lack of confidence prevent them from using the E-Banking services. He finally concluded that it is the bank which has to come forward to wipe off these fears about E-Banking from the minds of the consumers and thereby making them to use the E-Banking services.

Yap B. Kenneth Wong H. David, Loh Claire and Bak Randall (2009)\(^7\) examined the role of online attributes of an E-Banking website, size and reputation of the bank, and the quality of traditional service at the branch in the consumer’s trust in the usage of E-Banking in their paper “Building Trust in E-Banking: Where is the Line between Online and Offline Banking?”. Hierarchical Moderated Regression Analysis was used to test the model. The result supported that the trust in E-Banking has a positive influence on the willingness to adopt E-Banking. The results suggested that traditional service quality plays a more important role in influencing trust in E-Banking than the size of the bank. This study suggested that bank managers need to recognise that the customer experience with the bank’s service is integrated and seamless. Good service at the branch may give rise to a halo effect – where customers reason that good service they receive at the counter is indicative of good service they are about to receive online, or from any other product that is cross-sold to them.

Kurnia Sherah Peng Fei, Liu Yi Ruo (2009)\(^8\) explored the factors impacting E-Banking adoption in China in their paper “Understanding the Adoption of Electronic Banking in China”. In order to face the intense competition from foreign-owned banks, Chinese domestic banks have recently been actively engaged in E-Banking initiatives. The findings of the study also implied that more efforts are still required by the Chinese government to devise and promote legislations to protect users of E-Banking and other initiatives in general. This is to be done in order to increase the society’s awareness of the legislations and how they are being enforced. In particular, more effective fraud prevention methods are still required to build the community’s trust on E-Banking and other consumer oriented initiatives. Authoritarian government has a strong control over every aspect of the country as demonstrated in the E-Banking case in this study. They finally concluded that while this may have a good impact on the development of the initiative through infrastructure
and regulation development and financial support, it may also hinder its growth by establishing strict Internet content regulations and monitoring procedures.

Yang, J Cheng, L. and Luo, X. (2009)\(^9\) in their paper “A comparative study on E-Banking services between China and USA” made a comparative study about the issues in the current E-Banking services among the young consumers between China and USA. They used the Correlation Analysis tool for their research. They identified that the gap between two nations about the awareness and usage of E-Banking services is quite significant. Because of low competitive banking industry in China and lack of nationwide credit system, less available services and lower service quality are two critical problems faced in the Chinese banks. They also stated that Chinese customers are more willing and open to new availability of services (both in E-Banking service and in Mobile Banking service) of which US customers are less aware and more cautious, owing to the different cultures and traditions. Finally they concluded that, to upgrade to a more advanced level there are several emerging tasks to be targeted by the banks in China before the development of E-Banking industry.

Devi and Malarvizhi (2010)\(^10\) in their paper entitled “Customers’ perception of E-Banking: Factor Analysis” investigated the level of awareness and the expectations of the customers towards E-Banking using the factor analysis. Six factors were identified as influencing factors of the adoption of E-Banking. The factors include consumers’ satisfaction towards the cost and quality, the second factor being the problems encountered by them and the third factor is the reliability on banks. The fourth factor stands for bank’s efficiency in delivering the services, the fifth factor being the negative factor on E-Banking usages which include high hidden cost and the sixth factor is the accessibility. Finally they concluded that the customers were very much satisfied with the quality of E-Banking services, but they did face technical as well as administrative and procedural problems. Among the E-Banking tools, only the ATMs are very popular, so the banks must take sternest efforts to promote the other E-Banking products too.

Hasan A. H. M Saidul, Baten Azizul, Kamil Anton Abdulbasah and Parveen Sanjida (2010)\(^11\) in their paper “Adoption of E-Banking in Bangladesh: An Exploratory Study”, aimed at determining the present scenario of E-Banking and banking sectors in Bangladesh. They also demonstrated the scope and benefits of E-Banking compared with the existing system. They addressed the significant gaps in existing knowledge about the Internet Banking and landscape. They tried to present the actual situation of E-Banking in the marketing point of view in Bangladesh. The results showed that E-Banking serves several advantages to Bangladeshi banking sector. However, this study also observed that the
Bangladeshi customers have no enough knowledge regarding E-Banking which rendered by the banking sector in Bangladesh. So they finally recommended that it is the duty of the banks to first educate the customers about E-Banking and its dimensions. They have to make the customers realise the importance and advantages of E-Banking, which will be beneficial to the banks also.

Alkibi (2010)\textsuperscript{12} made a research on the topic “Customer Perceptions of Technology-Based Banking Service Quality Provided by Banks Operating in Yemen”. The researcher wanted to know whether a set of technology based banking service quality dimensions has an association with the customers’ satisfaction and their behavioural intentions or not. The dimensions included the Functionality, Enjoyment, Security, Assurance, Design, Convenience and Customisation. He used the Structural Equation Modeling and confirmed that customer satisfaction can be a consequence of service quality and it was a precursor to the behavioural intentions of the customers. Finally his research confirmed that customer satisfaction was important in technology based banking service. The banks which invest in technology with the expectation of their customers using these services must first try to provide quality services in order to attain their satisfaction. As a result of customer satisfaction, there may be a positive behavioural intention towards the newly introduced technologies.

Manoranjan Mobapatra, et.al., (2010)\textsuperscript{13} in their research found that about Forty percent of the population in India is unbanked. E-Banking is viewed as a platform for future innovations that can have long ranging socio-economic benefits for India and hence also be able to capitalise on the Indian government’s dream of, one bank account per Indian. According to them it is a win-win situation for all concerned. Bank operators and specialist companies are gradually getting themselves organised to operate E-Banking services. Also they were of the opinion that the penetration of ATMs in rural areas is not that high, since only forty ATMs are there for every million people in India.

Auta Elisha Menson (2010)\textsuperscript{14} explored the major factors responsible for Internet Banking based on respondents’ perception on various E-Banking applications in the paper “E-Banking in Developing Economy: Empirical Evidence from Nigeria”. The popularity of E-Banking has been ensured because of usage related benefits like convenience and flexibility and transaction related benefits like speed, efficiency, accessibility, less cost and time saving. However, the study showed that the Nigerian customers have fears over security and have no enough knowledge regarding E-Banking services rendering by their banks. He finally suggested that in ensuring the application of E-Banking in Nigeria critical
infrastructure like power and telecommunication play a vital role. So they should be provided with high level of stability. Also, the relative skewed nature of banks’ location mostly in urban area should be addressed to ensure spread and accessibility by rural dwellers too.

**Bernadette D. Silva et. al., (2010)** conducted a research in Internet Banking. The results revealed that certain demographic status like gender, income level and educational qualification are parameters to be considered in E-Banking which are affecting the opening of internet bank account. Since Internet Banking offers convenience, the bank operations through internet can attract longer customer and it will enhance the brand image of banks for the usage of sophisticated technology.

**Kamath KR (2010)** in his research stated that the forces of deregulation, liberalisations, and technological advancement have made banks to move towards universal banking. Technology has played and is playing a critical and arguably the most important role in redefining the financial business. Banks are responding to these technological changes by offering alternative delivery channels like ATMs, Telephone banking, Internet Banking, Mobile Banking and the like. Most of the banks have already implemented Core Banking Solution (CBS) across all offices to provide the double A, that is, “anytime anywhere” banking in true sense.

The study made by **Shittu Olorunsegun (2010)** aimed at examining “The impact of electronic banking in Nigeria Banking System”. The Unity Bank of Nigeria was taken for the study. The result showed that the Bank’s electronic banking guidelines are in line with the Central Bank of Nigeria’s (CBN) Electronic Banking guidelines which have improved its customer’s relationship and satisfaction. It was found from the study that the bank’s efficiency has enhanced with the adoption of Electronic Banking. Workers’ performance has become more effective and efficient with the strong impact of Electronic Banking. Customers can now have access to their account outside the working hours to the bank. He finally concluded that the electronic banking guidelines introduced by CBN strongly helped in the effective electronic banking system in Nigeria and thereby bringing the banking services closer to the customers.

**Proenca and Rodrigues (2011)** made a study on “A Comparison of Users and Non-Users of Banking Self Service Technologies (SSTs) in Portugal” to examine the users’ behaviour towards Self Service Technologies. They took six dimensions for their study such as satisfaction, propensity to complain, sensitivity to price, propensity to change providers, word-of-mouth and intention to re-purchase. They used Correlation and Chi-Square test and finally concluded that the middle aged young male persons with medium to high level of
education were the main users of the SSTs (ATMs, Internet Banking and Telephone Banking). Those customers who were satisfied with the SSTs exhibited positive word-of-mouth, a greater intention to repurchase, less sensitivity to price, less propensity to change banks and a greater propensity to complain. They also found that there was a positive relation between word-of-mouth and intention to repurchase, price sensitivity and propensity to change banks, whereas there was a negative correlation between word-of-mouth and price sensitivity and propensity to change banks, intention to repurchase and price sensitivity and propensity to change banks. So they suggested that the banks have to provide these SSTs in an effective way to reach all the segments of the customers.

According to Siddik Mohammed and Selvachandra (2011) in Indian E-Banking scenario, ATM is the most acknowledged e-channel than any other e-channels like Internet Banking, Mobile Banking, electronic fund transfers and the like. They analysed the customers’ satisfaction level towards the services provided by ICICI bank in their paper “A Study on Customer Satisfaction towards E-Banking Services of ICICI Bank in Chennai City”. They used the Multivariate Regression analysis. The Quality of service is the main factor quoted by most of the respondents for preferring their branch. Subsequent preference was given to convenience and popularity of branch. Delay in service in the branches is the common problem encountered by the customers in the banks. At the outset proportion of the problems are relatively meager and hence it was illustrated that there has been very meager problems in the transactions.

Swaminathan and Ananth (2011) analysed the customer satisfaction level towards E-Banking based on the analysis of data relating to 200 respondents through their paper entitled “Customer Satisfaction on E-Banking”. They used the Multivariate Regression analysis. In the analysis it was observed that particular age group has used these services. Further it was identified that convenience, awareness and responsiveness are the major factors influencing the customer satisfaction. In the present technology society, most of the banking customers see E-Banking as a good replacement of traditional banking. So most of them prefer and switch to E-Banking facilities. So the bankers can improve their services by increasing awareness of other age groups and concentrating on the factors contributing customer satisfaction. This would ensure the customers to get better services from the banks. The sufficient services available may be improved to give better customer satisfaction leading to retention of existing customers and attracting new customers. They concluded that the customer satisfaction is the major factor contributing to the success of service sectors. All the
service sectors depend on customer and their satisfaction and the banks are no exception. E-banking has become a major facility sought after by the existing and potential customers.

In the paper titled “Customers’ Preference for E-Banking Services: A Case Study of Selected Banks in Sierra Leone”, Gbadeyan and Gbonda Akinyosoye (2011) examined whether customers’ choice of banks is influenced by the quality of E-Banking services provided or not. The Chi–Square analysis used by the researchers revealed that the customers are very well influenced by the quality of E-Banking services offered by banks. They recommended that various measures should be put in place to ensure more security such as installation of encrypted software, verification system of customer’s identification cards, frequent change of password, examining test questions and using mixed password such as the use of alphanumeric amongst others. Finally they concluded that E-Banking has become an important phenomenon in the banking industry and it will continue to be the backbone of the banking industry in the future as more progress and innovations are made in information technology.

Krishnakumar and Selvam (2011) tried to identify the factors influencing the customers to open an account with ICICI bank and the problems faced by the customers while using the E-Banking facility through their paper “An Empirical Study on Factors Influencing E-Banking Services with Special Reference to ICICI Bank in Gobichettipalayam Town”. They used the Simple Ranking and Garret analysis. While using E-Banking services an important problem faced by most of the respondents is found to be the huge minimum balance. It was also found that ATM is an important factor which influenced the respondents to operate account with ICICI bank. The customers’ passion for the innovative services introduced by the banks can be used for strategic advantages of the bank by grabbing the opportunity of rapid growth in the use of the ATMs of the bank. Finally they concluded that the banks should proactively monitor customers’ preferences with regard to use of this delivery channel for effective response.

Mohammed Khalil (2011) undertook a study on “Online Service Quality and Customer Satisfaction: A Case Study of Bank Islam Malaysia Berhad” to understand the impact of Online Banking services of Bank Islam Malaysia on customer satisfaction using E-SERVQUAL (Electronic Service Quality) model. Tangibility, Reliability, Responsiveness and Empathy are the four online service quality dimensions selected by the researcher from Han and Beak (2004). From the analysis, he observed that there is a relation between customer satisfaction in Online Banking service and the four dimensions selected. The empathy is found to have the greatest influence on satisfaction followed by responsiveness.
The reliability is found to have a small influence on satisfaction, whilst the tangibles have no influence on satisfaction. Finally he concluded that the customers are satisfied with the Online Banking services of Bank Islam.

**Sharma Himani (2011)** conducted an empirical study on “Bankers’ Perspective on E-Banking” to investigate the bankers’ views regarding the E-Banking services. The study covered the bankers’ perspectives on E-Banking, its impact and promotional measures used by the banks to promote E-Banking. The study revealed that there is not much awareness in Indian customers regarding the usage of E-Banking services. So he suggested that the E-Banking usage amongst the customers can be promoted through the guidance and persuasion by bankers. As far as the impact of E-Banking is concerned, it was observed that E-Banking helps in improving the cordial relationship between bankers and customers. The bankers expressed confidence that such bonds would bring improvement in the overall performance of banks. The author has suggested that in order to make E-Banking more popular, banks must separate their customers based on demographic priority (like age, gender, occupation etc) and customise E-Banking services according to their needs and requirements. According to him, in order to increase awareness especially among the ATM or computer illiterates, there should be seminars or workshops or talks on the healthy usage of E-Banking.

**Sanayei Ali and Jafari Nasibeh (2011)** investigated about the most effective factors in customers’ acceptance of E-Banking services like the perceived use and intelligence, data security and quality of services in their paper “Appraisal of Influencing Factor on Accepting Electronic Banking (A Case Study of Industry and Mine Bank)”. It was revealed from the t-test that the existence of these factors bear a positive influence on the customers’ acceptance of electronic banking services. It is clear that when the customers are satisfied with the electronic banking services, it is accepted and applied to its fullest extent. Any system which results in the customers’ satisfaction is considered as the subjective factor for the success rate. It is also recommended that banks and financial institutions have to pay more attention to such three factors more than others in order to ensure customers’ satisfaction and continuous acceptance of banking services.

Customers’ perspectives regarding E-Banking in an emerging economy were surveyed by **Reeti Agarwal et.al., (2011)**. In an emerging economy like India it is an essential part of a bank's strategy formulation process to determine the factors affecting customer perception and attitude towards satisfaction with E-Banking. In order to gain this knowledge in respect of Indian customers, the study was conducted with the respondents
belonging to the northern part of India. The major findings depict that customers are influenced in their usage of E-Banking services by the kind of account they hold, their age and profession, attach highest degree of usefulness to balance enquiry service among E-Banking services, consider security and trust as the most important in affecting their satisfaction level and found slow transaction speed as the most frequently faced problem while using E-Banking.

An attempt to identify and measure the consumers’ perception towards the usefulness and willingness to use the E-Banking facilities was made by Rani Malika (2012) in her study entitled “A Study on the Customer Perception towards E-Banking in Ferozepur District”. She used the Analysis of Variance tool for her analysis. She concluded that around 60 per cent of the people have positive perception and are satisfactory with all the features of E-Banking except with one parameter called the “E-Banking is easy to use”. In spite of having positive perception about E-Banking services, it was found by the researcher that only 52.9 per cent of the respondents are using it frequently. Consumers are using various services provided by their respective banks and the highest used services as identified by the researcher are the ATMs and bill payment across various income groups followed by viewing of the account history. She further concluded that still people of these areas are not availing all the E-Banking services frequently because of their less knowledge about computer and internet and so they hesitate to use the E-Banking services.

2.2.2 Internet Banking

Sathye (1997) reviewed the status of Internet Banking in Australia through her paper entitled “Internet Banking in Australia”. The study found that only two of the 52 banks started in Australia were providing Internet Banking services. She opined that education would be a crucial factor for expanding Internet Banking in Australia. If customers are convinced about the various advantages of Internet Banking they will start asking for this service from their banks, and will put pressure on the banks to go ahead with Internet Banking.

Birch and Young (1997) argued in their paper “Financial Services and the Internet: What Does the Cyberspace Mean for the Financial Services Industry?” that, to completely reorganise the structure of banks, the financial services industry may exploit the internet as a new delivery channel. It meant that conducting E-Banking in Iran leads more usage of ATM in Iran. The authors came to conclusion that the active ATM in banking sectors will cause decrease in cash circulation and increase in the efficiency of banking
They explained the reasons as decrease in client banking costs (less cash fees to pay),
decrease in the shop keeper or service provider costs and decrease in the bank costs (cash
storage, less checking and processing costs). The authors further stated that the customers
have not enough knowledge related to E-Banking in Iran. The authors believed that the lack
of enough information on E-Banking in Iran may cause less efficiency of Iranian banks. So
they finally concluded that both bankers as well as Iranian legislators should introduce
E-Banking services at mass level to achieve high efficiency.

**Mols (1999)** acknowledged that the Internet Banking offers less waiting time and a
higher spatial convenience than the traditional branch banking through his paper “The
Internet and Banks’ Strategic Distribution Channel Decision”. So he regarded the Internet
Banking as an innovative distribution channel. Also he stated that this involved significantly
lower cost structure than the traditional delivery channels. Internet Banking reduces not only
operational cost to the bank but also leads to higher levels of customer satisfaction and
retention. He concluded his study by stating that the Internet Banking is very attractive to
banks and consumers, who have higher acceptance to new technology.

**Wisner and Corney (2001)** in their paper “Comparing Practices for Capturing
Bank Customer Feedback – Internet Versus Traditional Banking” emphasised the need for
customer feedback systems in the development of an understanding of what bank customers
want now and are likely to want in the future. For this purpose they evaluated the customer
feedback mechanisms of 30 traditional banks and 82 internet based banks at Las Vegas, USA.
They identified that the use of comment cards for getting feedback was not popular among
the banks surveyed, since only 33 per cent of them are making use of this mechanism. Also
the bank’s websites were only slightly better than the traditional banking system. 48 per cent
of the sites allow the customers to give freeform comments, however only two internet banks
offered online service quality surveys. They further commented that this percentage seems to
be very low while considering the highly competitive nature of the industry and the heavy use
of customer feedback questionnaires in other service organisations. They further stated that
these financial institutions are reluctant to receive the customer feedback very often. So they
suggested that these Financial Institutions should try to use the comment cards to receive the
customer feedback frequently and also to take care of personlising these cards in such a way
useful to them.

**Chellappa K (2001)** identified four trust elements embedded within the trust model
for internet based usage in his paper entitled “Contrasting Classical Electronic Infrastructure
and the Internet: A Tale of Caution”. The four trust elements are protection, verification,
authentication and non-repudiation. Protection is the process through which the customers are satisfied that their personal information is sufficiently preserved by the entity collecting information. Verification is related to the accuracy of the domain name proving that the customers are transacting with the actual internet bank that they want. Authentication is the process through which an internet merchant can be established via a trusted third party guarantees that the merchant is indeed who they say they are. Non-repudiation can be related to the mechanisms to ensure that the customer can be certain that he or she is communicating with the genuine serve or vice versa, such that neither of the communicating parties can later falsely deny that the transaction took place.

Hitt and Frei (2002)\textsuperscript{33} tried to explore the differences in the characteristics and behaviours between the customers who use the electronic delivery systems and the other customers who do not use these systems in their paper “Do Better Customers Utilise Electronic Distribution Channels? The Case of PC Banking”. They made use of the Regression modeling for analysing the behaviours and characteristics of these two types of customers. They concluded that in spite of the differences in demographic characteristics, account duration and short-run versus long-run profitability, the PC banking customers are more valuable to the banks than the other regular customers. Also they stated that when compared to the regular customers, the PC banking customers use more products and maintain higher assets and liabilities. They tend to adopt the PC banking to get hold of the banking products at a slightly faster rate. The customers in electronic channels, even if they do not significantly change behavior, might differ systematically from other customers. Finally they suggested that the use of Online Banking as a retention tool would be of a promise to the banks.

Bradley and Stewart (2003)\textsuperscript{34} sought to discern the key issues and to explore the future of Internet Banking using Delphi model in their paper “A Delphi Study of Internet Banking”. Experts from various fields relating to banking agreed to participate in the Delphi research. These key parties viewed the future of Internet Banking similarly. It was found that 84 per cent of the banks are expected to adopt the Internet Banking by 2011. It was also found that the use of internet as a banking medium would increase from 11 per cent in 2001 to 23 per cent in 2011 and it would not be the sole medium. The rise in Internet Banking does not mean the end of the branch banking. The internet is an additional channel, rather than a replacement. Ultimately, according to their study, the internet, branch, ATMs and telephone comprise a multi-channel strategy of future banking. They are of the opinion that internet will contribute as a part of the multi channel strategy (bricks and clicks) in banking rather that a
standalone (clicks only) strategy. This would enable the banks to have competitive advantage over other banks through delivering higher perceived customer value.

Gerrard and Cunningham (2003)\(^3\) in their paper “The diffusion of Internet Banking among Singapore Customers” tried to study the diffusion of Internet Banking, a form of self-service technology, in an Asian setting where the population is predominantly Chinese, generally well educated, competent at using PCs and familiar with using the internet. They identified eight dimensions which influence the adoption of Internet Banking as Convenience, Accessibility, Confidentiality, Compatatability, Personal Computer Competence, Economic Benefits, Social Desirability and Complexity. Using \(t\) test analysis, the researchers found that there was no significant relationship between the adopters and non-adopters in the dimensions of accessibility, confidentiality, economic benefits and social desirability, whereas there was a significant relationship between them in the dimensions of convenience, comparatability, PC proficiency and complex procedures. Their results indicated that the customers, whether they are adopters or non-adopters are very much concerned about accessibility and confidentiality relating to Internet Banking. So the banks have to emphasise that only registered customers with relevant passwords could access their Internet Banking.

Rotchanakitumnuai and Speece (2003)\(^3\) investigated the barriers in Internet Banking for the corporate customers in Thailand in their paper “Barriers to Internet Banking: A Qualitative Study among Corporate Customers in Thailand”. They have identified the barriers under three categories as pertaining to the trust of the system, legal support issue and the organisational barriers. They used the Qualitative Content Analysis for the study. The Internet Banking customers have low level of concern with regard to the trust of the system and the legal issues when compared to that of the non-users. The users have positive attitudes towards the Internet Banking adoption and have sufficient IT infrastructure and technical knowledge and thereby they are influenced to adopt the Internet Banking. Even then they use it as an alternative channel for their customers to make payment to them, but they do not use the Net Banking for making their own payments to the third parties. They finally concluded that the banks are viewing the Net Banking channel as a cost reduction mechanism for them and also for the customers. But the customers, especially the corporate customers look a quite number of potential issues relating to cost in this channel due to the risks involved in it. So they suggested that the banks have to work in reducing the barriers in the adoption of Internet Banking rather than improving the benefits of it. Thereby they can integrate the internet into inter-personal relationship with the customers.
In their paper entitled “Internet Banking Adoption among Mature Customers: Early Majority or Laggards?” Mattila Minna, Karjaluoto Heikki and Pento Tapio (2003) explored the Internet Banking adoption among the mature customers (who are above 65 years of age) in Finland which is a world leader in electronic banking. The mature customers belong to the late majority or even laggards in terms of adoption of technologies. They used the Chi-Square analysis for their research. Their survey results clearly indicated that over half of the mature customers are late adopters in the terms of their Net Banking adoption. And the reasons quoted for this were that, practical problems, concerns over the expensive start-ups, security and lack of personal service. They suggested that through education about the usage of E-Banking and by integrating personal services with E-Banking these hindrances could be toned down. They further suggested that the web pages could be developed with the three dimensions of voice recognition and the ability to call the bank personal via a video connection. They also wanted the banks to extend the current Net Banking services from PC and mobile phones to the digital television which could be of very much help to the mature customers.

In the context of Online Banking, Kim and Prabhakar (2004) found in their study “Initial trust and the adoption of B2C e-commerce: The case of Internet Banking” that in Internet Banking there is one trustor (the online banker), and two trustees (the Internet as a banking medium, and the financial institution offering the Internet Banking services). A chain is as strong as its weakest link, and so trust in both trustees must be present for Online Banking to flourish. Consumer trust, acceptance, and use of Online Banking technologies are also related possibly to the characteristics of the individual consumer and of the specific technology employed. The internet itself has many trust-based dimensions including Correctness (proper outputs for each input), Availability, Reliability, Security, and Survivability (capability to provide a level of service under adverse conditions). Onto this is layered the many distinct approaches to trust research, with antecedents of trust often determined by referent disciplines. Personality psychologists tended to view trust as an individual characteristic based on an innate propensity to trust. Institution based trust researchers maintained that trust reflects the security felt about a situation based on guarantees and safety nets. Marketers and sociologists have advanced that trust can be transferred or influenced by others, as in the case in word-of-mouth referrals.

Young De Robert (2005) has made an especially elegant case for the “internet only” business model for the banking industry in his paper “The performance of Internet-Based Business Models: Evidence from the Banking Industry”. His analysis attempts to
identify those factors of internet only business models which have been successful and those which have been a failure. He also tried to spot out the reasons for the successful deployment of the internet model in some banks compared to that of the other banks and to ascertain whether this internet model would be economically viable for the banks in the long run, despite its poor short performance. For these purposes, he analysed the financial performance of a dozen internet-only banks that started up between 1997 and 2001 at USA. The researcher has applied the Regression technique to analyse the data. He concluded that the internet only banking model is potentially viable for the banks. But he further quoted that there is no guarantee that these internet only banks continue to exist in the future too. The internet based banking can ensure high volume and low cost strategy for delivering the basic banking services.

Lee Eun-Ju, Kwon Kyoung-Nan and Schumann W David (2005) felt that considering the non-adopters of E-Banking as a homogeneous population may be inaccurate and inappropriate and stressed this point in their paper “Segmenting the Non-adopter Category in the Diffusion of Internet Banking”. So they tried to identify the differences among non-adopters, which may provide a means of identifying the prospective customers. They classified the non-adopters category into two types as persistent non-adopters and prospective adopters. They made use of the Multinomial Logistic Modeling for their analysis. Their findings included that there were significant differences found between the current adopters and persistent non-adopters of Internet Banking in terms of perceived service, attributes, perceived risk and compatibility, whereas experience with the computer technology along with compatibility factor makes a significant difference between the prospective adopters and the persistent non-adopters. As far as the differences between the current adopters and prospective adopters are concerned, the researchers found that the prospective adopters are more concerned with transaction security and monetary benefits when choosing the Internet Banking service. So they suggested that the Internet Banking service providers should effectively identify the consumer segments that will be immediately responsive to these offers. Also they must concentrate on the non-adopters category to make them into a profitable customer base.

Gerrard Philip, Cunningham J Barton and Devlin F. James (2006) in their article “Why Consumers are not Using Internet Banking? A Qualitative Study” identified eight factors which explained why consumers are not using Internet Banking. They used the Content Analysis for the study purpose. The first factor was risks, especially security risks associated with using the internet. The second factor was that there was no need to use the
Internet Banking that is there was no perceived need. The third factor being the lack of knowledge about the service and the fourth factor was the inertia of not motivated to find out what Internet Banking offered and what needed to be done to become an Internet Banking user. The fifth factor was the incapability of connecting up to an internet bank. The sixth factor was the lacking of human touch. The seventh factor was the pricing concerns, the costs involved in the using of Internet Banking and the eighth factor was the IT fatigue, that is spending more time on the PC make them reluctant to use Internet Banking. So they suggested that the banks should consider these factors and to take steps accordingly before the number of Internet Banking users begins to plateau off.

Malhotra Pooja and Singh Balwinder (2007)\(^4\) attempted in their paper “Determinants of Internet Banking Adoption by Banks in India” to discover the factors which considerably affect the adoption of Internet Banking by banks in India. They used Logistic Regression technique for the analysis. Their results indicated that the rate of adoption of Internet Banking was high in case of larger banks, banks with younger age and banks with large deposits. Also the Internet Banking service was also provided by the banks with lower market shares and branching density. Hence the service was used as a complementary channel with an intention of cost reduction and revenue enhancement. As far as the category of the banks is concerned, it was found from the study that the private banks and foreign banks tend to adopt Internet Banking quicker than the public sector banks. So they suggested that analysing these factors would be of very much helpful to the creators and producers of these technologies.

Maenpaa Katariina, Kale H. Sudhir, Kuusela Hannu, and Mesiranta Nina (2008)\(^4\) sought to examine consumers with differing levels of Internet Banking expertise and the differences in their perceptions of Internet Banking dimensions in their paper "Consumer perceptions of Internet Banking in Finland: The Moderating Role of Familiarity". Using the Principal Component Analysis, they identified seven dimensions such as Convenience, security, status, auxiliary features, personal finances, investment and exploration. This study reported interesting differences in perception and behaviour among novice, moderate and expert users in the context of Internet Banking. Consumers’ Internet Banking expertise was measured in terms of how often and for how long Internet Banking has been in use. Three dimensions were found to have a U-shaped distribution with moderate users attaining the lowest mean in status, personal finances and investment. The fourth significant dimension, auxiliary features, decreased linearly in importance with increasing expertise. The results
revealed that novice users value and would utilise service dimensions like auxiliary features and personal finances to support and facilitate their daily actions in Internet Banking.

Laukkanen Peeka Sinkkonen Suvi and Laukkanen Tommi (2008) in their research “Consumer Resistance to Internet Banking: Postponers, Opponents and Rejectors” went deeper into the understanding of innovation resistance among the Internet Banking non-adopters by dividing them into three categories like postponers, opponents and rejectors. They used the Principal Component analysis and found out five adoption barriers such as Usage, Value, Risk, Tradition and Image barriers. They found significant differences among the groups. They found that the resistance of rejectors is much stronger than the other two categories. The postponers show only slight resistance. They intended to adopt Internet Banking within a year. So they suggested that some targeted marketing actions concentrating on safety issues could be sufficient to speed up the postponers’ adoption. The opponents have negative image of the service. The bankers must try to break the psychological barriers and enhance the image of the service. The rejectors have no idea of adopting Internet Banking at all and they seem to be the most challenging section for the banks. The banks have to approach these customers through face-to-face communication and education methods. They suggested that demonstrating the ease and convenience and risk avoidance factors are necessary to convert the rejectors into adopters of Internet Banking.

Wang and Pho (2009) in their paper “Drivers of Customer Intention to use Online Banking: An Empirical Study in Vietnam” have commented that numerous Vietnamese banks have launched Online Banking services to offer improved service to the existing customers and attract new ones. However, Online Banking is new to most people in Vietnam and rates of adoption of Online Banking are very low. This study focused on this issue and attempted to identify the determinants of customer intention to use Online Banking. The study demonstrated the inspiring result that brand credibility also positively affects customer intention to use. Incorporating complimentary relationship into the website quality model, this study provides a new model for measuring website quality in Online Banking. The factor reliability and validity are high and satisfactory.

Jeevan (2010) observed in his paper “Only Banks-No Bricks, Voice and Data” that the Internet Banking has transformed the brick and mortar based banking to click and portal based banking. The Internet Banking enables banks to offer low cost and high value added financial services. He commented that finally banks are finding that a comprehensive Online Banking strategy is indispensable for success in the increasingly competitive financial services market. Changes in technology, competition and lifestyles have changed the face of
banking and banks in the present environment are looking for alternative ways to provide differentiated services. He also found that Online Banking has come out as a significant strategy for banks to attract and retain customers.

Chandra and Sharma (2010)\(^{47}\) have made an empirical study to evaluate the existence and format of privacy policies adopted by different banks of India regarding the conduct of Online Banking through their websites in their paper titled “Analytical Research on Indian Online Banking and Users’ Privacy”. The survey tried to measure the extent of online privacy disclosures, data collection and interactivity of the Nationalised and Private Banks in India. The results of the survey revealed that only 43 per cent of the banks have posted their privacy policies on their websites. Regarding the data collection, the customer’s name, e-mail address, postal address and the bank account number are the items collected by the banks. Most of the banks’ websites have registration forms for different services in PDF (Portable Document File) format. So there is no real time interaction with these banks. This survey also revealed that there is no common standard format for privacy policy in India. The survey concluded that it will be very helpful for Online Banking customers, if there is any authority to monitor and control the proper format and points included in the privacy policies for banks.

Zahid Nauman, Mujtaba Asif and Riaz Adnan (2010)\(^{48}\) made an attempt to investigate the effects of perceived usefulness, security and privacy, and quality of internet connection on acceptance of Online Banking in Pakistan in their paper “Consumer Acceptance of Online Banking”. They examined the Online Banking users’ behavioral characteristics. Respondents from three renowned universities within Rawalpindi and Islamabad areas participated in the survey. Only perceived usefulness was found significantly related with acceptance of Online Banking while the other two such as privacy and security, and quality of internet services were insignificantly related with the acceptance of Online Banking. This might show that speed and reliability of the internet connection are not regarded as important by the respondents of their study. The possible reason can be traced as the reliable internet connections have become common in urban areas of Pakistan. The reason for less significant relationship of security and privacy can be that, customers of banks are well satisfied with the security measures provided to them by their banks and therefore this factor also showed insignificant influence of privacy and security in the research.

Ankit Shah (2011)\(^{49}\) in his paper “Factors Influencing Online Banking Customer Satisfaction and their Importance in Improving Overall Intention Levels – An Indian Banking Perspective” investigated the factors influencing the overall satisfaction level of the
customers towards the usage of Internet Banking using the Factor Analysis. Also he tried to study the impact of the loaded factors on the overall satisfaction level using the Multiple Regression analysis. The results of Factor Analysis revealed that Banking Needs followed by Core Services, Customer continuing with the Bank, Interest Policy, Bank Charges, Feature Availability Problem Resolution, Cost Saved, Convenience and Risk and Privacy Concerns are the major factors affecting the customers’ satisfaction level. The Multiple Regression analysis came out with the result that the loaded factors have a significant influence on the overall satisfaction level of the customers. Finally he concluded that the Banks have to give due emphasis to all the factors in order to ensure customer satisfaction and customer retention.

2.2.3 Credit Cards

In their article on “Consumer Rationality and Credit Cards” Dagobert I. Brito and Peter R. Hartley (1995)\(^5^0\) observed that borrowing on Credit Cards at high interest rates might appear irrational. However even low transaction costs can make Credit Cards attractive to bank loans. Credit Cards also provide liquidity services by allowing consumers to avoid some of the opportunity costs of holding.

A study related to card usage and attitudinal differences was conducted by Chan (1997)\(^5^1\) in his paper “Demographic and Attitudinal Differences Between Active and Inactive Credit Card Holders – The Case of Hong Kong”. He used the Correlation analysis. In his study, the inactive cardholders were those with a usage rate of less than ten times per month. He found out thirteen variables as influencing the attitude of Credit Cardholders. The active users pointed wide acceptance of the cards and detailed leaflet describing the cars were more important in choosing them. They were also satisfied with the large credit limit and low annual fee. And he found out that among the thirteen variables identified, the wide acceptance and high credit limits were proven to be the most influencing attributes that contributed to the purchase of Credit Cards.

Worthington Steve (1998)\(^5^2\) in his paper “The Chinese Payment Card Market: An Exploratory Study” tried to identify the relationship between the number of merchants and the number of Credit Cards issued. His study compared the progress towards the card distribution strategies of financial services in Japan and the United Kingdom. The study showed the differences on the acceptance and use of cards between the two countries. He stated that increasing number of merchants accepting payment through Credit Cards and also the number of cards offering usage incentive schemes would strengthen the consumers’ use
on Credit Cards. Obviously, the number of acceptance points would affect the consumers’ ownership on Credit Cards.

Chien Yi-Wen and Devaney A. Sharon (2001)\textsuperscript{53} tried to identify the differences in the general and specific attitudes towards credit and the use of credit in their paper “The Effects of Credit Attitude and Socio-Economic Factors on Credit Card and Installment Debt”. They also used the instalment debt in the research. They used the Regression technique. They found that if the specific attitude index is higher, then the outstanding Credit Card balances will also be higher. Further if the general attitude towards using Credit Card is higher, then the installment debt will also be higher. Finally they suggested that more awareness about the usage of Credit Card would help in creating a favourable attitude towards it. Hence their research revealed the importance of consumers’ attitude towards the use of credit.

Ramayah and Choo Lim Hee (2002)\textsuperscript{54} identified thirteen factors as important in influencing the attitudes of the Credit Cardholders in their paper “Cardholders’ Attitude and Bank Credit Card Usage in Malaysia: An Exploratory Study”. The attributes like Acceptance Level, Credit Limit, Interest-Free Repayment Period, Ancillary Functions, Handling Complaints, Bank Image, and Advertising were found to be important using the Multi Attribute Attitude Model. Also they suggested various points like working closer with the retailers to promote the acceptance of Credit Cards, to provide adequate credit limit to cardholders, to extend interest free repayment period from 20 days to 30 days, to implement strategic alliances with firms involved in travelling, entertainment, insurance, telecommunications and to advertise more so as to create a brand name for the issuing bank.

Him Wong (2005)\textsuperscript{55} in his project titled “A Study on Credit Card Market in China: Influence of Service Provision Point and Credit Card Acceptance Point” identified that ATMs and merchant network of the banks were the critical factors for making the customers of China to go for Credit Cards. He made use of the Multiple Regression tool. His findings included the fact that there was a non-linear relationship between the two factors service provision points and Credit Card acceptance points relating to Credit Cards. Increasing the merchant networks had a significant relationship with the Credit Card issue. So he suggested that understanding this relationship between the two points would lead to profitable investment of the banks. Also he stated that those banks with the largest merchant network can be successful in the Credit Card business.

“An Empirical Study of Credit Scoring Model for Credit Card” by Hui-Chung Yeh, Min-Li Yang, Li-Chuen Lee (2007)\textsuperscript{56} proposed an Optimal Credit Scoring Model to re-assess the default risk of Credit Card holders for Credit Card issuing banks in Taiwan. This
study adopted four credit scoring models which are the linear discriminant analysis, decision tree, back-propagation neural network, and a hybrid method to evaluate the default risk. By comparing the evaluation results of these models, it shows that the decision tree method has the best classification performance in terms of accuracy and sensitivity.

Ramananda, Ravichandran and Pandian Alagu (2012) tried to identify the attitude of the customers towards the Credit Card services in their paper “A Study of Customers’ Attitude Towards Credit Card Services of Banks in Sivakasi, Tamilnadu”. The Chi-Square test was used in their study. They quoted the reasons for the usage of Credit Cards as avoidance of risk in not carrying the cash physically, convenience, no immediate payment in case of shopping and cash also can be withdrawn from ATM whenever needed. They also found that income was not an obstacle in using Credit Cards, since most of the income groups use the cards. Finally they suggested that the bankers have to take personal care in considering the occupation and income of the customers before issuing the cards, since income is the deciding factor of one’s purchasing power.

Ludlum Marty, Tilker Kris, Ritter David, Cowart Tammy, Xu Weichu and Smith Brittany Christine (2012) felt that the usage of Credit Cards has become a disaster to the college students in America, because they were faced with debt before finishing their graduation programme. They conducted a survey among the business students of five campuses in USA and used the Chi-Square test for analysing the results. As regards financial literacy about Credit Cards, only 10 per cent of their respondents were aware of interest rates and charges. The senior students showed more responsibility in the knowledge of interest rate and charges than the juniors. Also they examined the effect of specific courses conducted in the campus regarding the Credit Card understanding. Those students who have attended the ethics classes had greater understanding of the Credit Cards than those who did not attend the classes. Also employment of the students also had significance in the understanding of the Credit Cards. Finally they concluded that financial literacy among the college students was not successful as most of the students had poor knowledge of Credit Cards. So they suggested that targeted financial literacy programmes can be conducted for the college students.

Govindarajan, Anand Vijay and Balachandran (2012) in their paper “A Study on the Awareness and Utilisation of Credit Cards in India” reported that the Credit Cards exceed the debit cards in terms of business. They analysed the awareness and utilisation regarding the usage of Credit Cards using the Analysis of Variance tool. They concluded that the customers were aware of the security check and they did not care about the reward points given by the Credit Card companies. They viewed the Credit Cards as the status symbol. But
they were not happy about the pressure mounted by the Credit Card department in compelling them to avail loan. Further the debit card holders reported positively that they would start using the Credit Cards, in spite of their fearness that the Credit Cards might increase their spending habit if the bankers approach them.

**Alfonse A. Odhiambo and Florence S. Memba (2012)** in their paper “Credit Cards and Performance of Commercial Banks Portfolio in Kenya” sought to identify the relationship between the adoption of Credit Cards by the customers and their satisfaction towards their usage and also to find out whether the Credit Card business was profitable to banks in Kenya or not. They used the Pearsonian Correlation tool. They concluded that the usage of Credit Cards increased the customers’ satisfaction because of the benefits associated with their usage like making purchases without carrying cash, getting money when salaries delay and negotiated credit limits. Also they found a positive correlation between the banks’ revenue and Credit Cards usage. If the banks increase the adoption of Credit Card business, then they could witness a proportionate increase in their revenue and subsequent portfolio improvement. They suggested that the banks can come forward to take up Credit Card business as a diversification of loan facilities.

**Elangkovan (2012)** noted in his paper “Usage of Credit Cards Beyond Limit: A Case Study of Younger Generations in Malaysia” that in Malaysia there were more young people of age 30 years who felt that status was gained by owning more Credit Cards. And this had lead to bankruptcy of many young people and the author tried to identify the factors that contributed to their bankruptcy due to Credit Cards. The author felt that the Credit Card companies which were in competition with each other forced many people to buy Credit Cards with many introductory offers to increase their business. He was of the opinion that although Credit Cards encourage smooth consumption, when the level of income falls down, then the usage of Credit Card might lead to financial distress. Finally he concluded that credit education to these people is essential through financial seminar, talk from professional person or forum. From this the people can come to know whether these Credit Cards are advantageous to them or not.

In his paper “A Study on Perception and Awareness on Credit Cards among Bank Customers in Krishnagiri District”, **Sudhagar (2012)** tried to identify the awareness of the Credit Cards and assessed the eligible credit limits and the limits availed by the customers and studied the extent of usage of the Credit Cards. He used the Fishbeins Attitude Model. It was found from his study that people were more aware of the ICICI Bank’s Credit Cards through the company’s agents. A majority of them were aware of the basic conditions and the
charges imposed by their banks on the service. But most of them were not aware of the cash withdrawal facility offered under Credit Cards. He further pointed out that the scenario of Credit Cards in 2009-10 has changed. Many customers surrender their Credit Cards and the banks too have stopped further issuing Credit Cards. He finally concluded that as people were yet to realise the complete potential of Credit Card, its market was falling down.

Dhanabhakyam and Malarvizhi (2012)\textsuperscript{63} in their paper entitled “A Study on the Awareness, Utilisation and Problems of Using Kisan Credit Card of Canara Bank (With Special Reference to Coimbatore District)” studied the awareness of the Kisan Credit Card (KCC) holders and their attitude towards the cards and reviewed their extent of utilisation using the Chi-Square analysis. It was found from their study that KCC was one of the most innovative, widely accepted banking products used among the agriculturalists in the study area. So the awareness level of the KCC instrument was higher among the customers in the area and they were utilising this loan facility efficiently. They suggested the bank to carry on this operation efficiently further more.

2.2.4 Mobile Banking

Suoranta (2003)\textsuperscript{64} in her thesis entitled “Adoption of Mobile Banking in Finland” indicated that factors contributing to the adoption of Mobile Banking were related to convenience, access to the service regardless of time and place, privacy and savings in time and effort. In spite of the advantages of the mobile phone and its usage in banking actions had remained small. There seem to be some inhibitors that slow down the use of mobile channels in banking transactions.

Brown I., Cajee, Z., Davies, D. and Stroebel, S. (2003)\textsuperscript{65} examined in their paper “Cell Phone Banking: Predictors of Adoption in South Africa – An Exploratory Study” about the factors that influence the adoption of Mobile Banking in South Africa on the basis of innovation diffusion theory, banking needs, perceived risk internet experience, subjective norm, and self efficacy. They concluded that relative advantage, trial periods, and consumer banking needs, along with perceived risk, have a major negative influence on the adoption of Mobile Banking.

Suoranta and Mattila (2004)\textsuperscript{66} in their paper “Mobile Banking and consumer behavior: new insights into the diffusion pattern” surveyed 1,243 Finnish non users, occasional users and current users of Mobile Banking. They reported that about only half of current users of Mobile Banking, regardless of age differences, intended to continue to use the delivery service. Among the occasional users group, those with income level less than
50,000 Euros per year were more willing to begin usage than wealthier people, contrary to what some earlier studies on Internet Banking had found. It is also found that in the current non-user group the most eager to begin using the services are the older people who are 50 years of age and above.

Laforet and Li (2005) studied the consumers’ attitudes towards Online and Mobile Banking in China in their paper “Consumers’ Attitudes towards Online and Mobile Banking in China”. They used the t-test for their analysis. Their major findings included that the perceived risks in Online Banking were found the most influential factor in the adoption or non-adoption of Internet Banking. Also unlike other countries’ customers, the Chinese respondents did not give much importance to factors like convenience, ease of use and access to a wide range of services. Hacking and fraud are the major barriers among the Chinese respondents in the adoption of Online Banking. As far as Mobile Banking is concerned, one important factor was found influencing its adoption. It was previous experience with technology. The non-users of Mobile Banking do not have any prior experience with this newer technology. Despite the lack of understanding of the Mobile Banking benefits, this was perceived as a novelty. Finally the authors suggested that the bankers have to strive in raising the consumer awareness about the benefits of online and Mobile Banking and the acceptance of the new technology-based banking services through advertising and promotion rather than the word-of-mouth communication.

Laukkanen Tommi (2007) explored in his paper “Internet Vs Mobile Banking: Comparing Customer Value Perceptions” the customer value perceptions towards Internet and Mobile Banking with particular reference to the bill pay services. He used the Means-End Approach and Ladder Interviewing Technique to reveal the hierarchy of value creating factors and the relationship among them. His findings included that the notable differences among the two services were that the mobiles can be accessed wherever needed, capable of immediate actions and time saving in service consumption. Further the keyboard and display of the handset seem to be the clearest inhibitors to the use of mobile bill pay services. The same case seems to be the opposite in Internet Banking. Also technological development like the 3G (third generation) will improve this wireless service consumption. However data input, difficulty in copying the account number, index number, amounts and due dates were found difficult in the Mobile Banking operations, which is not the case in Internet Banking. But anyhow Mobile Banking is only in its initial stages, whereas Internet Banking has grown better. He finally suggested that the banks have to take steps in popularising both the channels among the customers.
Laukkanen Tommi Sinkkonen Suvi, Kivijarvi and Laukkanen Pekka (2007) investigated the innovation resistance among mature customers in the Mobile Banking context using the t-test analysis in their paper entitled “Innovation Resistance Among Mature Consumers”. Also the factors influencing the Mobile Banking adoption of mature customers are compared with that of the young consumers. By mature customers, the authors mean those persons who are above 55 years of age. The resistance of the customers was measured with five barriers namely Usage, Value, Risk, Tradition and Image barriers. Their findings included that the most intense barrier for the Mobile Banking adoption was the value barrier. That is the Mobile Banking was not considered as adding value for money or it did not offer any other advantage. In this respect, the authors suggested that this barrier can be removed by banks through extensive awareness creation about the benefits offered by the Mobile Banking service. They also found that there were risk and image barriers among the mature consumers. The most significant differences between the mature and young customers were related to the input and output mechanisms of information, battery life of the mobile phones and a fear of missing all the PINs thus ending up in the wrong hands. They suggested that the banks could employ innovation modification strategies to overcome this type of resistance.

Lee and Chung (2009) felt in their study “Understanding Factors Affecting Trust in and Satisfaction with Mobile Banking in Korea: A Modified DeLone and McLean’s Model Perspective” that in the Mobile Banking context, the small size of mobile devices including small screens and tiny multifunction keypads may be troublesome to use and impair the usability of the Mobile Banking service. Indeed, it has been found that the reason behind the belated dissemination of Mobile Banking is in the system limitations, such as tiny screens and keypads and slower transaction speeds, compared to computer based Internet Banking. Also the study showed that smaller screens appear adequate in information-based mobile services, like requesting account balance, but those banking services involving transactions require a bigger screen size.

KPMG International (2009) conducted a survey for the topic “Consumer taking charge, consumers and convergence III – survey report” on 4,190 consumers with mobile devices (Personal Digital Assistants-PDAs, cell phones or Blackberries) in 19 countries throughout the world. A slight majority (51 percent) of respondents reported that they were aware of their bank’s services via mobile devices. However, only a minority (19 percent) of consumers worldwide use their mobile device for banking purposes or payments. This figure is especially low for European countries (5 percent) and Latin America (7 percent).
In their study “The Moderating Effect of Gender in the Adoption of Mobile Banking”, Riquelme and Rios (2010) analysed the factors influencing the adoption of Mobile Banking among the current users of Internet Banking in Singapore taking the gender as a moderating variable. They used the Structural Equation Modeling technique to analyse the results. They found risk, ease of use, adoption, usefulness and relative advantage as the factors influencing the adoption of Mobile Banking among the respondents. The female users of Mobile Banking perceived that ease of use lead to the perception of more usefulness of the device in conducting the banking transactions. It was also found that the male customers were very much particular about the relative advantage in the technology to judge its usefulness. Considering others in the decision making influence the adoption more strongly among the female respondents than the males. They suggested that the banks should target their communication tactics according to the gender.

Barretto Lineu, Neto Filgueiras and Gallego Pablo Munoz (2010) in their study “Mobile Banking Rollout in Emerging Markets: Evidence from Brazil” investigated the perceived obstacles that are hindering the usage of Mobile Banking among the Internet Banking adopters in Brazil and also searched for patterns according to socio-demographic variables. They used Multi-Dimensional Scaling for exploring the reasons for rejecting this service and Chi-Square tests for analysing the patterns as per socio-demographic variables. The most important factor which hindered the Internet Banking users to adopt Mobile Banking was the cost factor. However, the bank did not charge any amount for the Mobile Banking services, but the mobile service provider charged for transacting. The second factor of hindrance was the low perception of relative advantages when compared with the personal contact with the branch and the perceived risk from its use was the third factor. The other factors identified were unsuitable device, complexity in transacting, lack of information and lack of observability. Regarding the patterns in socio-demographic variables, the authors found that male, young customers with low income and high education level were very much particular about the cost factor. The older and high income earning people were concerned with the perception of low value for the service. The women customers between the ages of 35 and 55 were afraid of perceived risks which hindered them in availing the service. Finally they concluded that the older a person was, the lower the perception of cost as a problem, however the highest the levels of lack of relative advantage and complexity of use, as expected. Therefore they suggested a different communication strategy for different ages by segmenting the customers age-wise.
In analysing the effect of information and guidance offered by a bank on five adoption behaviours – usage, value, risk, tradition and image – in a Mobile Banking context, Laukkanen and Kiviniemi (2010) found in their study “The Role of Information in Mobile Banking Resistance” that the banks’ information and guidance not only play a vital role on affecting the perceived functional usability of the innovation but also significantly increases the positive image associated with the innovation. They used the Structural Equation Modeling technique. They also increase the perceived value added provided by Mobile Banking and decrease the perceived risks related to the innovation. Further they found that they have no effect on reducing the tradition barrier. So they finally concluded that the information and guidance have more influence on functional than psychological barriers in the Mobile Banking context. They suggested one-to-one communication with the customers to reduce the usage barrier, whereas impersonal communication through mass media can help in reducing the value barrier. Both personal and impersonal communications help in lowering down image barrier. Offering Mobile Banking on a trial basis would decrease the risk barrier. Also they suggested that the banks can market this new innovating channel to the existing Internet Banking users as a supplementary channel.

Zhou Tao (2011) in his article “An Empirical Examination of Initial Trust in Mobile Banking” examined the effect of initial trust in Mobile Banking. According to him, for Mobile Banking service providers, building users’ initial trust was important due to high risk and low switching cost. He used Structural Equation Model and found that structural assurance and information quality were the main factors influencing the trust. Since these wireless networks involve high risks and uncertainties, the users have to make sure that their payments and other transactions were done safely. The factor system quality has a relatively low effect on building the trust, whereas trust propensity has a significant effect. Initial trust has affected the perceived usefulness and both these factors predict usage intention to use the Mobile Banking services. Finally he concluded that the banks should take steps in improving the initial trust in Mobile Banking in order to facilitate users’ adoption and regular usage with confidence.

In a paper entitled “Relationship between Customer Satisfaction and Mobile Banking Adoption in Pakistan” Saleem Zohra and Rashid Kashif (2011) tried to identify the key factors which led to the adoption of Mobile Banking in Pakistan. Their findings indicated that technologically efficient as well as cheap, reliable and secure technological development were the pre-requisite for the Mobile Banking development. Also the awareness about this new technology was also to be created to reap its benefits to the fullest extent possible. They
identified a positive relationship between the organisational factor and customer satisfaction, a weak positive relationship between technical infrastructure and satisfaction. In the area of economic factor, it showed a negative relationship towards satisfaction. Finally they suggested that reduction of risk related to day-to-day transactions performed through mobile device would enable customers to build up trust in the Mobile Banking.

Akturan and Tezcan (2012) in their study “Mobile Banking Adoption of the Youth Market: Perceptions and Intentions” aimed to investigate the perceptions of young non-users of Mobile Banking who were between the age of 18 and 25 years in Turkey. They used the Structural Equation Modeling and through the development of a risk-benefit model by extending Technology Acceptance Model (TAM). They sternly believed that the adoption of Mobile Banking by the young users would depend upon their attitudes towards it and in turn their attitudes were affected by their perceived usefulness, perceived benefit, social risk and performance risk. The perceived usefulness was influenced by the ease of use perception. Also they found that perceived usefulness and intention to use, perceived ease of use and attitude, risk and attitude did not have any relationship between them. So they suggested that banks have to take steps in lowering down the social and performance risks associated with the Mobile Banking and increasing its perception of the beneficial nature.

Aggarwal Gazal and Kaur Harminder (2012) studied the impact of Mobile Banking on the service quality of the customer in their paper “Mobile Banking: A New Paradigm Shift in Buying Channel”. They found from their study that Mobile Banking was popular among the young customers of the bank as they were using the mobiles widely. Apart from these people, the other age group people were nor much aware of the services. So the banks have to create awareness about this particular service. The Short Messaging Service (SMS) alert and convenience were the major factors identified in the usage of Mobile Banking. But the non-users were raising questions of security and privacy and so they prefer traditional way of banking that is going to the bank in person.

2.2.5 Automated Teller Machines (ATMs)

In their paper “Perceived Attributes of ATMs and Their Marketing Implications” Rugimbana and Iversen (1994) examined the performance of the ATMs in terms of acceptance and level of usage in two Australian banks. They tried to find out the whether there is any association between the customers’ usage patterns and their perceptions towards the attributes of ATM services. Chi-square test, Factor Analysis and Logistic Regression were used by them for the study. The perceived attributes found in the study were the
convenience, reliability and suitability. These attributes were viewed favourably by the ATM users, whereas these were viewed negatively by the non-users. They concluded that ATMs in Australia are not operating to their expected potential. And the people have not accepted them as innovations which have replaced the human tellers in banks. So they suggested that the banks have to go a long way in making the ATM services satisfactory to all the customers.

Ou Chin-S, Hung Shin-Yuan, Yen C. David and Liu Fang-Chun (2005)\(^8\) in their paper “Can Automatic Teller Machine Investment Improve Bank Cost Efficiency” used the actual number of ATMs to determine the extent of influence the ATM investment has on a bank’s cost efficiency. They concluded that automation brought in cost savings. Hence the ATM intensity had a positive effect on bank cost efficiency. In addition, it was found that the bank scale was also positively related to cost efficiency, while non-performing loans and salary level had a negative impact. Hence innovative technological investments help the firms in achieving cost efficiency.

Kauffman and Baker (1991)\(^8\) established the business value linkage impact analysis to measure the business value of IT investment in their paper “Case Study of Electronic Banking at Meridian Bankcorp”. They tried to examine the impact of ATMs on teller labour productivity, branch service value and branch deposit market. The results showed that easier transactions were transferred from tellers to ATMs, thus contributing to less productivity of tellers in processing transactions. However, as the authors concluded, ATM just took over the easy parts of tellers’ usual work. The decreasing labour efficiency of tellers did not reduce the service value of ATMs. In addition, ATMs also had marginal contribution to deposit market of bank branches.

Davies Fiona, Moutinho Luiz and Curry Bruce (1996)\(^8\) in their paper “ATM User Attitudes: A Neural Network Analysis” measured the attitudes and perceptions of the customers towards the ATM services at Cardiff, United Kingdom using the Neural Network (NN) analysis which bring the psychometric and econometric approaches together. The NN analysis uses three layers as input, hidden and output layers. The input layer consists of expectations, confidence, perceived risk, age and value for money. The hidden layers represent particular respondent attitudes consisting of disaffected youth, technophobes, pro-technology segment and the cost conscious segment. The output layer consists of satisfaction with ATMs, likelihood of recommendation to others, extent and frequency of use. Their research has shown a clear division among the four difference attitudinal types of ATM consumers. They concluded that only the pre-technologists are fully satisfied with the ATM
services, where the cost-conscious customers believe that ATMs are not good value. The disaffected youth segment had bad experiences of ATM use like machines being closed, broken or vandalised machines and also some errors in the statement. The technophobes have negative attitudes towards all the output layers. They would need to have a major change in attitude to become satisfied ATM customer. They recommended to the banks to make the ATMs to be more user-friendly and personaised in order to bridge the gap between the human and machine interaction.

Weiner (1999)\textsuperscript{83} pointed out in his paper “Electronic Payments in the U.S. Economy: An Overview” that the total number of ATM transactions has more than doubled over the last ten years and is estimated to reach near 11 billion and total number of ATM terminals in United States has tripled over last ten years. Finally he concluded that ATM cards have become the other most popular non-cash instruments in US and its popularity has been explosively increasing throughout the world.

Dheenadhayalan V (2010)\textsuperscript{84} in his paper “Automation of Banking Sector in India” has researched particularly about ATMs. He stated that the ATM was one of the earliest Electronic Banking products introduced in the mid 1970s. ATM is the most convenient way to withdraw cash. He noted that the total number of ATMs installed by the banks was 43,651 at the end of March 2009 as compared with 34,789 at the end of March 2008 and 27088 at end of March 2007 respectively. The ATM to Branch ratio was much lower for public sector 35.4 percent (32.9 percent in 2007) and old private sector banks 47.2 percent (34.9 percent in 2007). On the whole ATMs to number of Branches was 47.5 per cent at the end of March 2008, and 67 per cent at the end of 2009.

Pahwa and Saxena (2011)\textsuperscript{85} examined the level of customer satisfaction associated with the various aspects of ICICI Bank’s ATMs in their paper “Analytical Study of Customer Satisfaction of ICICI Bank with special reference to ATMs”. They used the weighted average scores and concluded that the customers exhibited a high level of satisfaction towards the dimensions of availability of cash in the ATMs, the quality of the currency notes, promptness of the delivery of ATM cards and correctness of cash withdrawn by them from the ATMs. But they were not satisfied with the dimensions of availability of complaint books, location aspects of the ATMs, number of ATMs in the city and non-availability of power back-up in case of break down. It was also divulged from the study that most of the customers were found having knowledge of other features of ATMs except than withdrawal and most of them also make use of other features too. It was also recommended by the authors that in order to sustain in this world of competition the ICICI Bank, being the largest private sector bank,
must make its customer satisfaction base stronger. The management of ICICI Bank should seriously consider the recommendations made by their customers and take all necessary steps to follow the same.

Khumbar (2011)\textsuperscript{86} compared the level of customers’ satisfaction in ATM services provided by Public and Private sector banks in his paper entitled \textit{“Customers’ Satisfaction in ATM Service: An Empirical Evidence from Public and Private Sector Banks in India”}. He also analysed the gap between the expectation and perception of ATM service quality, brand perception and perceived value in ATM service of public and private sector banks. He used the Mann Whitney Test and concluded that the study lead to state that when compared to the ATM services of the public sector banks, the private sector banks are providing more satisfactory ATM services. However, customers’ perception about efficiency, security, responsiveness, cost effectiveness, problem handling and compensation and contact service related to ATM services was lower in case of both sector banks. So he cautioned the banks through his research that in order to retain their customers and withstand the competition, the cost effective efficient ATM services are to be provided by the banks.

Kadir Hazlina Abdul, Rahmani Nasim and Masinaei Reza (2011)\textsuperscript{87} tried to identify the effects of services offered by Malaysian Banks through online media and ATMs on customer satisfaction in their paper \textit{“Impact of Service Quality on Customer Satisfaction: Study of Online Banking and ATM Services in Malaysia”}. They made use of SERVQUAL model and Analysis of Variance for their research. Gaps of Online Banking and ATM services in Malaysia were found. Three dimensions of Responsiveness, Customisation, and Flexibility out of eleven dimensions of E-SERVQUAL model are found unable to respond customers’ needs. They suggested that Malaysian anchor banks are required to improve their services related to these dimensions in order to fulfill the customers need. On the other hand, with regard to ATM services, tangible and responsiveness dimensions out of 5 dimensions of SERVQUAL model are found unable to fulfill the respondents’ demand as well. So, ATM services related to these dimensions need for further enhancement to satisfy customers.

Adeoti Johnson Olabode (2011)\textsuperscript{88} investigated in their paper \textit{“Automated Teller Machines (ATMs) Frauds in Nigeria: The Way Out”} the dimensions of ATM frauds in Nigeria and proffered solutions that would help in mitigating the ATM frauds in the country’s banking system. It was found from the study that card jamming, shoulder surfing and stolen ATM cards constitute 65.2 per cent of the ATM frauds in the country. The author suggested solutions like installing vigilance cameras, setting withdrawal limits, remote monitoring, anti card skimming solutions, customer awareness, biometric tokens and online fraud monitoring
could help in reducing the frauds in ATMs. Finally he concluded that both the customers and bankers have a joint role in facing the threats.

Shaikh Aijaz Ahmed and Shah Syed Mir Muhammad (2012) investigated the flaw that occurred in the ATM of ACB Bank Ltd in their paper “Auto Teller Machine (ATM) Fraud – Case Study of a Commercial Bank in Pakistan”. It was the bug in the ATM controller that allowed the ATM card holders of various banks to fraudulently withdraw cash from ATMs of the bank for nearly three months. In the investigation they came to know that the bank’s internal control systems have failed to detect the implantation of mapping bug which deprived the bank of more than 21 million Pakistani Rupee. Also they quoted that the role played by the lack of understanding of higher management on the systems and procedures supporting ATM infrastructure was significant in developing the bug. So the authors suggested a turnkey ATM solution where under a third party or an independent selling organisation may be contacted to deploy and look after the ATMs, to provide monitoring and diagnostic services and also to ensure safety and security of the ATMs.

Siddik M. Mohammed (2012) investigated the ATM services in India through the paper titled “A Study on E-Banking Services in India With Special Reference to ATM Services”. Since ATMs offer any time money, most of the customers use these any time money machines for their frequent transactions. It was found from the study that there is active usage of electronic banking. The frequent use of this mode is reflected from the study through the finding that nearly 50 percent of the respondents were using ATM transactions more than 8 times in a month. He finally concluded that the ability to adjust themselves to customer orientation will lead to the survival and growth of Indian banking. Also to match the global standards they have to bring about an improvement in the service standard.

Premalatha and Sundaram (2012) have undertaken a study to analyse the satisfaction level of the customers, their convenience and attitude towards safety, assurance and flexibility of using ATM services in their paper “Analysis of Customer Satisfaction with reference to ATM Services in Vellore District”. The Chi-Square test indicated that there is a significant relationship between age and the two dimensions convenience and safety of the ATM services. The t-test pointed out that there is no significant relationship between gender and various dimensions of the satisfaction level. The ANOVA test divulged that there is a significant difference between educational qualification and satisfaction level. With regard to occupation, the ANOVA test confirmed the null hypothesis. Finally, they concluded that the overall satisfaction level of the customers of various banks in Vellore district was good. They
also suggested that the bankers can improve the safety, provide accurate information and make the ATM services to be easy-to-use facility.

Narteh Bedman (2013)\textsuperscript{92} tried to identify the ATM service quality dimensions and to evaluate the customers’ perceptions of the relative importance of these dimension in Ghana through his study “Service Quality in Automated Teller Machines: An Empirical Investigation”. He developed an ATMqual (ATM Quality) model with five dimensions namely reliability, convenience, responsiveness, ease of use and fulfillment. To identify the importance of dimensions on service quality, he used descriptive statistics, factor analysis and multiple regression. According to him, customers first expect reliability over the ATMs they use like ATMs should be functional at all times and to be conveniently located. The next dimension as expected by the customers was the responsiveness from the bankers as there could not be 100 per cent flawless service. Also customers expect ease of use in terms of free of efforts and complexities. The final dimension was the fulfillment of their expectations like giving genuine notes, providing faster services and providing enough money during transactions. So he suggested that giving easy-to-read language, appealing graphics, ease of navigation etc would help the banks in increasing the customer transactions with the banks. The banks have to move from high-tech platform to high-touch in taking care of their customers.

2.2.6 Security Concerns

Hutchinson Damien and Warren Matthew (2003)\textsuperscript{93} concentrated on presenting a secured and trusted pathway for ensuring security in accessing the Internet Banking in their paper “Security for Internet Banking: A Framework”. They proposed a framework concerning how to identify security requirements for Internet Banking such that the transactions being conducted are secured within their respective environments. They propose the Secured Socket Layer (SSL) which uses the message authentication codes for securing the web session over the internet through which data integrity can be ensured. Also they suggested a firewall implementation to prevent the hackers from breaking the banking network. They concluded finally that repudiation of transactions can be protected by complementing the identification and authentication process with technologies like public-key cryptography, digital notary and digital signature.

Feig Nancy (2004)\textsuperscript{94} in her article “ATM Fraud is Growing Rampantly” stated that the number of reports of ATM frauds in USA accounted an increase of 42 per cent from 1520 in 2003 to 2153 in 2004. These frauds have cost US $17 million which is a 118 per cent
increase. She quoted the major four types of frauds in ATMs as false fronts of ATMs, bogus ATMs, hand-held skimmers and phishing scams. The false fronts of ATMs consist of a skimming device installed to an existing ATM. This device along with a pinhole camera would note down the customer account information, the bank name and the Personal Identification Number when the customers insert the card. Since ATMs were found everywhere including malls, bunks and bars, the criminals install bogus ATMs. These machines skim the cards of the customers on insertion into the card reader and then tell them that the card did not work. The information thus skimmed can be encoded on a blank card to remove funds from the victims’ accounts. So she suggested that the banks have to send their staff periodically visit their ATMs to make sure that everything was in place and to educate their customers about these frauds.

Fletcher Nigel (2007) sought to examine the problem of cyber fraud which is created by a situation of online financial transactions in his paper “Challenges for Regulating Financial Fraud in Cyberspace”. He quoted certain issues in cyber crime such as persons responsible for online fraud, gathering evidences to prosecute those who commit financial fraud in cyberspace, jurisdiction of the cyberspace and persons controlling it. The conclusion that he had drawn is that it would be useful to have internet specific regulation in relation to financial fraud in cyberspace. He further concluded that the internet assists the financial crime as it has certain features that allow criminals to exploit through the very benefit that it brings to the users. He further stated that the present regulation in United Kingdom is not enough to counter the financial crimes in cyberspace. So he suggested that there is a need for a specific program to deal with the cyber crime based on its characteristics and improvements in the current legal framework will be a welcome development in the fight against the financial fraud in cyber space.

According to an online survey carried out by ReadiMinds (2008)“State of Online Security in Financial Institutions in India – 2008”, over 57 per cent of banks still do not have a dedicated budget for online security and over 40 per cent of respondent banks do not have any formal plan in place for creating customer awareness against online identity theft and financial frauds. In July 2010 itself, an increase of 3 per cent was seen in phishing attacks on Indian banks when compared with the previous month. It is quite evident that fraudsters are targeting Internet Banking users by increasingly creating more phishing sites and spoofing as many popular Indian brands as possible.

Garrett Jennifer (2011) in her article “Mobile Banking Security” was of the opinion that by 2014, most of the customers would manage their finances on the fly that is
through Mobile Banking. She stated that though customers love the convenience of banking through mobiles, the security issues make them nervous. There was a rapid growth of new malware (a virus) designed to permeate mobile devices and exploit personal data. The reports from Javelin Strategy and Research showed that the percentage of customers rating Mobile Banking as “unsafe or very unsafe” has increased from 25 per cent in 2009 to 40 per cent in 2010. So she suggested that banks have to develop the Mobile Banking applications with 100 per cent security features imbibed. She also suggested that the mobile companies can provide fully functional native Mobile Banking application with full security features. She finally concluded that Mobile Banking would be growing further as there was a constant increase in the usage of mobile phones and it would become as one which cannot be ignored forever.

Gilaninia Shahram, Taleghani Mohammad, Taheri Taher and Mousavian Seyyed Javad (2011)\textsuperscript{98} in their paper “A Study of Effective Factors on Customers’ Trust in Electronic Banking Services (Case Study with Melli Bank in Ardabil City)” examined the effective factors on customer trust in electronic banking services in Melli bank of Iran (Ardebil city). The Pearson Correlation test applied by the researchers showed that independent variables like perceived security, perceived usefulness, perceived privacy policy, customer satisfaction have high correlation with the dependent variable, that is customer’s trust in electronic banking services. Therefore they suggested that Bank officials and decision makers should adopt various strategies to ensure the safetiness of the accounts when the client's ongoing activities are undertaken through Internet Banking or ATM. Introducing exact address of reputable sites can help in increasing the customers’ trust in undertaking banking activities via the internet. Also they should ensure that their banking services are from newest safety and security technology. It has been observed that wide activities can be conducted through electronic banking and therefore the actual and potential customers who have not yet got comprehensive information about electronic banking services should be educated through the media and the press and through brochures and newspapers about the benefits of electronic banking. They concluded that the banks should take certain steps and actions that would better meet the customer expectations of banking services.

Geeta Vijaya (2011)\textsuperscript{99} in her paper “Online Identity Theft – An Indian Perspective” opined that the banks should take steps to protect the one important asset – the customers from the online identity theft. She reviewed the scenario of phishing attacks in India and provided some measures to tackle these problems. In the Asia-Pacific or Japan (APJ) region, India accounted for 15 per cent of all malicious activities in 2009 which was an increase from 10 per cent in 2008. India has got higher rank in malicious code, spam zombies and phishing
hosts from 2008 onwards in the specific categories of measurement in the APJ region. This made India being the third highest country of spam origin globally. To protect Indian customers from these threats, many Indian banks have collaborated with the VeriSign company which is a trusted provider of internet infrastructure services for the networked world. The author has suggested that educating the customers, creating a separate security department in the bank, ensuring constant monitoring and using advanced security tools like Secure Socket Layer (SSL), 128-bit encryption and the like can help in combating the identity threats in net banking.

Moga Liliana Mihaela, Nor Khalil Md, Neculita and Khani Naser (2012) were interested to know how the Government of Romania and its major banks tackle the major issues of E-Banking, that are trust and security. So they reviewed the measures taken by the government of Romania and major banks in the country in tackling this issue in their paper “Trust and Security in E-Banking Adoption in Romania”. In particular, their focus area is to review the legal provisions instituted by the related ministry of the Romanian Government on E-Banking practices. They also studied the strategies taken by banks to address the security concerns of the service. They made a common conclusion that, trust and security of E-Banking activities have been accepted as the important issues in Romania and in also other countries. As far as the legislative framework of Romania is concerned, there are numerous normative Acts to address the issue of trust and security of the E-Banking activities. However, they recommended that both the service providers and users must get acquainted with them. Moreover, they found that the E-Banking services are provided by almost all banks in Romania. However, there is a difference found in the bank’s provision of security features. This needs a development especially in the areas of home banking and phone banking services. Furthermore, many rules and regulations are provided by the government and banks in Romania. However, the effectiveness of those rules and their functions in mitigating banking consumers’ security concerns still need more investigations.

Saeednia and Abdollahi (2012) aimed to determine the factors affecting the trust of the clients in the context of Online Banking in their paper “Factors Affecting Client Trust in Online Banking – A Case Study of Saman Bank”. The effect of variables such as security, privacy, usability and reputation perceived by customers, on client trust in Online Banking is studied by them. It is a well known fact that for establishing long term relations, commitment plays a vital role. So the researchers included the association between trust and commitment in the context of Online Banking. The study showed that perceived reputation and client trust are directly related to one another. To enhance reputation and improve client trust in the
Online Banking context, the banks can use some of its best promotional measures. The clients seriously concern about security gaps, hacking risks and other issues relating to reveal financial information. Although banks use many methods such as encryption, e-sign, digital certificate, and firewall to enhance financial transactions, they must develop methods to improve perception of clients on security and privacy in the websites to ensure them.

2.3 Conclusion

The previous researches made in the Study area are analysed and it is known from the literature that factors influencing the adoption of various channels of E-Banking are analysed to the maximum extent possible. Also studies relating to the awareness level of the channels of E-Banking are available. The level of utilisation of E-Banking services is done only in few studies and that too was in the area of Credit Cards. Hence by reviewing the past literature, the researcher came to know that there was no study undertaken in analysing the awareness and utilisation level of four important channels of E-Banking. So the present study covers the research gap of studying both the awareness and utilisation level of the four important services of E-Banking such as Internet Banking, Credit Cards, Mobile Banking and Automated Teller Machines under the title “A Study on the Awareness and Utilisation of Electronic Banking.”
References


15 ibid
16 ibid
26 ibid
34 Bradley Laura and Stewart Kate (2003), “A Delphi Study of Internet Banking”, Marketing Intelligence and Planning, Vol. 21 No. 5, pp.272-281, ISSN 0263-4503


55 Him Wong (2005), “*A Study on Credit Card Market in China: Influence of Service Provision Point and Credit Card Acceptance Point*”, Project, Hong Kong Baptist University, Hong Kong.


(Case Study with Melli Bank in Ardabil City)”, *Interdisciplinary Journal of Contemporary Research Business*, Vol 3, No. 8, December 2011

