LITERATURE REVIEW

Chapter 2

LITERATURE REVIEW

2.1. INTRODUCTION

A large volume of literature is available about various aspects relating to the use of modern techniques in banking service delivery system practiced around the world. Some of these studies are comprehensive while the depth and coverage of some studies are narrow. The methodology followed in some of the studies are most scientific while in some others it is not that much scientific. The researcher has reviewed most of the available studies in this area.

In this chapter, a detailed review of the studies conducted about the technology used in banking in India and abroad is described. Section 2.2 makes a review of the literature in the development of e-banking delivery channels. In section 2.3, relevant literature related to the awareness and adoption of e-banking is reviewed. Section 2.4 deals with the literature review of factors influencing the adoption of ATMs. Section 2.5 deals with that of internet banking, section 2.6 with that of credit cards and section 2.7 deals with that of mobile banking. Finally, in section 2.8 a detailed review of the available literature related to user's experience and satisfaction of e-banking is given. From this review, research gap is identified and the relevance of the present study is drawn. Conclusion is given in section 2.9.
2.2. DEVELOPMENT OF E-BANKING DELIVERY CHANNELS

Consumers of banking services are becoming more demanding in terms of the level of service they expect and how they are able to access services when required. A general increase in organizations’ customer orientation, owing to increased competition, witnessed in many markets, has also occurred in financial services, further heightening customer expectations. Customers are demanding greater convenience and accessibility as reflected in longer branch opening hours and an increase in the choice of delivery mechanisms. There has been a drastic change in lifestyles of customers in recent years as individuals have become more affluent and spent more on leisure activities. This has led to a decrease in “disposable time” to dedicate to such things as financial matters. Changing work patterns may also add to an increase in time pressure for many individuals. Consumers have therefore demanded greater convenience and access. This does not mean that the branch network does not have an important role to play. Marketing aims to maintain and increase consumer use of goods or services (Kelley and Thibaut (1978)).

Relationship duration and interaction frequency have been found to be good predictors of relationship development (Levinthal and Fichman (1988)).

Branches, albeit in reduced numbers, will continue to be an important means of reaching many segments of the market. However, with increasingly diverse sets of preferences there will be a growing need for organizations to develop multiple channels of distribution. The branch network will undoubtedly remain an important distribution channel for the foreseeable future; however, consumer choice will continue to be augmented in response to developments in consumer preferences. These supply and demand side pressures have therefore had a significant influence on the distribution of retail financial services including those offered by the retail banking sector. The traditional reliance on the branch network remains to some extent; however, the delivery mix has expanded and will continue to do so (Devlin (1995)).

According to Sheth and Parvatiyar (1995) consumers use is important because it builds consumer habits and reduces consumer uncertainty. Kimball and Gregor (1995) observed that developing alternative channels for retaining the existing customers as well as for attracting new ones is very important to financial institutions. ATM was the first
example of a self-service device that is aimed at providing convenience to the customers to meet their banking needs while decreasing costs for the bank. The next development is the introduction of phone banking, which is another delivery channel for branches of the financial services via telecommunication devices connected to an automated system of the bank. It enables customers to perform some of their transactions through a phone call. According to Nevens (1999), the bank transaction cost drops 80% or more when it is handled electronically. By the mid-1990s, many banks had begun to experience directly the potential the Internet offered them. Ultimately, the Internet presented a novel alternative to the phone banking systems (Claessens et.al. (2002)).

In Eurobarometer survey (2002), in the order of importance of use, Internet banking occupies the sixth place preceded by e-mail, online searches for information on news/topics, travel, training/education, and health. Nowadays, banks provide a complete range of financial services through their Internet banking channels because they are more cost-effective than other customer-contact channels with less staff and fewer physical branch requirements (Gopalakrisnan et.al. (2003)). However, customer adoption of Internet banking has not been as strong as most banks might have wished. According to Furnell (2004), customers have a tendency to be confidential about their accounts and are concerned with the security of banking transactions. Weir et.al. (2006) found that Internet banking services allow customers to use remote access to manage their bank accounts and transactions.

Financial institutions offer new banking channels to their customers, as the technology adds new dimensions to the classic banking systems. Over the last few years, self-service technologies have replaced the need for face-to-face interaction between banks and customers (Eriksson and Nilsson (2007)).

2.3. AWARENESS AND ADOPTION OF E-BANKING DELIVERY CHANNELS

Adoption is the acceptance and continued use of a product, service, or idea. According to Rogers and Shoemaker (1971), consumers go through a process of knowledge, persuasion, decision and confirmation before they are ready to adopt a product or service. The adoption or rejection of an innovation begins when the consumer becomes aware of the product. According to Fishbein and Ajzen (1975), attitude is
defined as an individual’s positive and negative feelings (evaluative affect) about performing the target behaviour. Attitude toward behaviour refers to the degree to which a person has a favourable or unfavourable evaluation or appraisal of the behaviour in question.

Howard and Moore (1982) emphasized that for adoption of a product/service consumers must become aware of the new brand. Hence, an important characteristic for any adoption of innovative service or product is creating awareness among the consumers about the service/product. Technological service innovations differ from other commodities insofar as their adoption may require behavior different from consumers’ typical routines (Gatignon and Robertson (1985)). This includes “bricks and mortar” issues such as not having a branch bank to visit, as well as “paper” issues including receiving statements electronically and not in the mail.

Adoption of e-banking may be related to the combination of marital status and gender, with married couples more likely to adopt than either single males or single females. Research has also linked age and adoption of technologies, with younger persons being more likely to adopt (Zeithaml and Gilly (1987), Parasuraman et.al (1988)).

Rothwell and Gardiner (1984), while developing the framework of user needs in technological innovations, identify “safety in use” as one of the factors that influences potential users. Internet bank acceptance can be studied by examining the causes behind frequency of use of internet banking. For such a study, a modified form of the technology acceptance model (TAM) is applied, which identifies the perceived usefulness and the perceived ease of use of a technology as determining user behaviour (Davis (1989)). He found that perceived usefulness has a stronger influence on usage than does ease of use. Davis’s study shows that users are driven to adopt a technology primarily because of the functions it provides them, and secondly because of the easiness of benefiting from those functions. Customers are often willing to overlook some difficulties of usage if the service provides critically needed functions: no amount of ease of use can compensate for a system that does not perform a useful function. Scarbrough and Corbett (1992) find “understandings of consumers” to be an important element in the diffusion of innovative technology.
Ho and Ng (1994) empirically support that the use of electronic banking involves risk. They suggested that consumers perceived an existence of risk was present with the use of electronic banking. According to Ainscough and Luckett (1996), the provision of customer interactivity is an important criterion that attracts users in the delivery of e-banking.

Moutinho et.al. (1997) suggested that contrary to all the predictions that the branch-based distribution network would become obsolete in a computerized society, the full-service branch office has survived. Explorations of demographic correlates of technology acceptance have produced differing results with respect to significant relationships to adoption. In part, these differences may relate to the sets of variables included in the analysis.

Gender has not been found to have a direct effect on adoption of technology in general (Gefen and Straub (1997)), but men and women appear to have different acceptance rates of specific computer technologies, with men more likely to adopt.

Cooper (1997) found ease of adoption as one of the important characteristics from the customer's perspective for adoption of innovative service. It stated that innovative products often have superior price/performance characteristics.

Lockett and Littler (1997) analysed the development of telephone banking. They presented a study of the adoption of direct banking services in the UK using a model of the perceived innovation attributes and the personal characteristics of adopters and non-adopters. Their results indicated that the most important perceived positive attribute of direct banking was its 24-hour-a-day availability, whereas complexity and risk of service were the two negative attributes. They identified risk as an important characteristic of electronic banking. These include financial risk, performance risk, physical risk, social risk and psychological risk.

According to Barrett (1997), the younger the customers are, the more comfortable they are in utilizing non branch service delivery systems, conversely, the older the customers are, the more attached they are to the traditional branch system.

The perceived usefulness of something is its ability to provide a means-end relationship (i.e. the given thing as a means to a desired end), or to provide a rationale upon which to make decisions. Means-end knowledge accounts for why consumers use a
product (Barczak et al. (1997)). The perceived usefulness is defined as “the extent to which a person finds that using the system will enhance his or her job performance” (Doll et al. (1998)).

Perceived risk is considered an important risk attribute that impacts on the consumer decision-making process when buying a product or consuming some services (Mitchell (1998)). Mick and Fournier (1998) identify eight paradoxes of information technology. Consumers perceive internet technology as leading to control and chaos, freedom and enslavement, new and outmoded practice, increase and decrease in the feeling of competence, increase and decrease in efficiency, fulfillment and creation of needs, promotion and hindrance of social interaction, and engagement and disengagement. These ambiguities make internet technology difficult for consumers to understand.

Drawing on social exchange theory, Gefen and Keil (1998) argue that a model of technology acceptance with more social dimensions requires that trust be included as an antecedent to perceived usefulness and ease of use. Daniel (1999) found "ease of use" as one of the factors for customer acceptance in her study of electronic banking in the UK and Ireland. She also pointed out lack of access to suitable PCs and the high level of risk as the reason for low usage of electronic banking. She also identified that "security" as a factor influencing customer acceptance. Obviously, Internet banking will not be adopted unless it is considered safe and secure by the customers. The added value in electronic banking, according to Trethowan and Silicone (quoted in Daniel (1999)), was convenience, sales orientation and lower costs.

Price factors suggest that perceived relative economic advantages would motivate consumers to use electronic banking. Mols et al. (1999) state that "the diffusion of electronic banking is more determined by customer acceptance than by seller offerings". They drew attention to their spatial convenience and less waiting time for consumers. Empirical studies on the acceptance of technologies have found consistently positive relationships between usefulness and to a lesser extent, ease of use, and the adoption of a variety of specific technologies, ranging from computer software to e-mail (Karahanna et al. (1999)).
Ramsay and Smith (1999), observed consumers rated branches as their most preferred service channel while Internet banking was the least preferred. The phone service was the next most preferred sales channel after the branch. The most preferred transaction channel was again the branch while the Internet was again the least preferred transaction channel. Following the branch, ATM was the second most popular transaction channel. Customer channel preferences appear to differ from actual usage, in that the branch was only the third most used channel, whereas in the survey, it was the most preferred sales and transaction channel. Furthermore, ATM and electronic funds transfer at point of sale were the two most used channels, ahead of branches showing that consumers are already embracing high-tech delivery methods, and highlighting the potential for Internet banking in the future. The main reason why people liked the branch for a sales channel was the level of service and the personal nature of the service.

Jayawardhena and Foley (2000), on the other hand, listed the advantages for electronic banks: cost savings, increased customer base, mass customization, marketing and communication, innovation, and development of non-core business. It revealed that roughly one-half of consumers would first enquire with their existing banker if they needed a new financial product. In the case of e-banking, savings of time, money and convenience have been cited as relative advantages. At the same time, financial management conducted online raises concerns of privacy, a relative disadvantage for some (Snel (2000)).

Lee and Lee (2000) did find that for direct bill payment, minorities were less likely to have already adopted the technology. Increases in income and education tend to be positively related to the adoption of an innovation. Prior research has empirically found positive relationship between perceived ease of use and perceived usefulness as critical factors on the use of e-banking (Agarwal et.al. (2000), Johnson and Marakas (2000)).

Cost savings have helped e-based banks offer lower or no service fees, and offer higher interest rates on interest bearing accounts than traditional banks (Gerlach (2000)). Research findings of Moutinho and Smith (2000) clearly suggested that the drive towards ease of banking and convenience is favoured by the customer and, therefore, banks should find alternative strategic routes designed to improve service delivery (either
human-based or technology based). Bank customers' attitudes towards the human provision of services and subsequent level of satisfaction will impact on bank switching more than when the same service delivery is made through automation. E-banking provides higher degree of convenience that enables customers to access internet bank at all times and places. Apart from that, the accessibility of computers is perceived as a measure of relative advantage (Suganthi et.al. (2001)). Therefore, it is hypothesized that convenience and accessibility have positive effect on consumer adoption of e-banking.

Ashban and Burney (2001) in their study revealed that customers increasingly extent their use of electronic banking as their experience grows with the system. In general, Saudi customer's income levels and education play a vital role in their adoption and usage of electronic banking technology.

Thornton and White (2001) have compared seven distribution channels (ATM, Electronic Fund Transfer at Point of Sale (EFTPOS), credit card, cheque, human teller, telephone, and Internet) with a view to a set of variables affecting their usage. They concluded that customer orientations such as convenience, service, technology, change, knowledge, computer, and Internet affected the usage of different channels. The usage of ATM, EFTPOS, and telephone increased as customers were more oriented towards change, knowledge, computer, and confidence.

Nath et.al. (2001) underlined that the average transaction cost of $1.07 at a full-service bank was reduced to $0.27 at an ATM, and fell to about a penny if the transaction was made on the Web. They also added that cost savings, access to additional services, and convenience were among the main benefits of the Internet Banking. The advantages of electronic channels and especially the Internet over traditional branch banking were also underlined.

Polatoglu and Ekin (2001) identified that users of electronic banking were significantly satisfied with the cost saving factor through electronic banking. Furthermore they stated that the more knowledge and skills a consumer possessed about electronic banking, the easier it was for the consumer to utilize electronic banking. Consumer resources also influence the use of electronic banking.

The service product characteristics of electronic banking including: consumers' perception of a standard and consistence service, the time saving feature of electronic
banking, and the absence of personal interactions, have been empirically found to influence consumers' use of electronic banking (Karjaluoto et.al. (2002)). Similarly they suggested that non-electronic banking users considered electronic banking as difficult to use because they found computers difficult to operate.

In another exploratory study in the UK, Black et.al. (2002) argued that consumers' channel choice in financial services was determined by consumer, product, channel, and organizational characteristics in which product-channel interactions and consumer-channel interactions were of particular importance. However, electronic banking, or virtual banking in general, cannot entirely replace other more traditional channels. In UK, consumers prefer a mix of several channels rather than a single channel (Howcroft et.al. (2002)). The challenge for bank marketers is to find the right mix of distribution channels so that they can remain profitable in different market segments. Other major benefits of strong electronic service have also been identified as including satisfied and retained customers; opportunities for cross-selling; attraction of new customers; development of customer relationships; increased sales and market shares; enhanced corporate image; reduced costs and increased profit margins and business performance (Bauer et.al. (2002)).

With regard to demographics factor, Howcroft et.al. (2002) revealed that younger consumers value the convenience or time saving potential of online and mobile banking more than older consumers. Younger consumers also regarded the lack of face-to-face contact as less important than older consumers. Researchers have also suggested that consumers perceive electronic banking as inexpensive and that it does not offer any extra cost benefits (Karjaluoto et.al. (2002)).

The educational levels of respondents did not affect the use of telephone or online banking, (Barnes and Corbitt (2003), Brown et.al.(2003)).

When consumers decide to use electronic banking, they are exposed to uncertainties such as the availability, the compatibility, and the performance of the complementary electronic banking channels (Sarin et.al. (2003)).

Security and privacy are two important dimensions that may affect users' intention to adopt e-based transaction systems. Encryption technology is the most common feature at all bank sites to secure information privacy, supplemented by a
combination of different unique identifiers, for instance, a password, mother's maiden name, a memorable date, or a few minutes of inactivity automatically logs users off the account. Besides, the Secure Socket Layer, a widely-used protocol for online credit card payment, is designed to provide a private and reliable channel between two communicating entities; the use of Java Applet that runs within the user's browser; the use of a Personal Identification Number, as well as an integrated digital signature and digital certificate associated with a smart card system (Hutchinson and Warren (2003)).

Rexha et.al. (2003) given that personal contact between bank employees and customers is largely reduced in electronic service delivery and that such interactions encompass, facilitates and reinforce the relational elements of trust, cooperation, reliability, flexibility and commitment, many individuals would be relatively cautious about using new technology. In fact, many customers still feel particularly vulnerable when exposing their finances to this medium and therefore are still inclined to perceive the bank branch as providing more reliability and trustworthiness.

According to Gerrard and Cunningham (2003) security concerns and the negative issues associated with new technologies in general seemed to be the main reasons for non-technology customers avoiding it. However, internet bank’s positive performance in terms of accessibility, convenience, time saving, and ease of use seemed to motivate time-poor, technology-oriented customers to use it, in spite of security concerns and a certain degree of depersonalisation. For complex operations—such as mortgage loans—customers preferred personal interaction in the bank branch. From the customers' perspective, the great advantage of the Branch Banking is the possibility of having person-to-person interaction, which is expected to bring mutual knowledge, individualised attention, professional competence of employees, and responsiveness in non-routine situations.

Rexha et.al. (2003) suggested that marketing managers in financial institutions should be aware that customers are likely to embody e-banking provided that such technology contributes to existing relationships. Study found that trust was the key factor influencing the adoption of e-banking. Perceived customer satisfaction with the bank only imparted indirectly on the adoption of e-banking. The cumulative effects of customer satisfaction were found to have a positive impact on trust directed towards the bank and
this greatly imparted on the propensity to use e-banking. Customer satisfaction, trust and the use of e-banking were found to have a positive impact on the client’s commitment towards their bank (Hway-Boon and Yu (2003)).

In a study about the adoption of electronic banking technologies by US consumers, Kolodinsky (2004) explored the idea that relative advantage, complexity/simplicity, compatibility, observability, risk tolerance and product involvement are associated with adoption. Demographic and economic variables such as income assets, education, gender and marital status and age also affect adoption. Adoption changed overtime but the impact of these factors on adoption has not changed.

Curry and Penman (2004) indicated that the human element in the banker/customer relationship is more influential than the technology element. Customers are more likely to adopt a new technology if a competent employee has demonstrated its benefits to them. Whilst the bank may decide that technology saves time, the customer on the other hand may decide that a preference for personal service remains.

In a study with regard to the adoption of internet banking and mobile banking in China, Laforet and Li (2005) found that the current target market for online and mobile banking was found to be relatively small. The level of awareness of such services was low in China. The critical issues, which stood out as being obstacles to consumer adoption of online and mobile banking were consumers’ attitudes, security factor perceived risk, lack of computer and new technological skills and Chinese habit of cash-carry banking. As for mobile banking, lack of understanding of the concept and its benefits were the main barriers to its adoption. In contrast to Western countries, Chinese online and mobile bank users tend to be predominantly male, not typically young, neither highly educated, the salaried employees, senior managers and small business owners.

Jham (2005) revealed that younger customers in the socio economic group are more inclined to purchase specialist services from their primary bank compared to older consumers in the same social class. This is potentially very important because it suggests that consumer opinion might be changing and that cross selling specialist services to existing customers is a viable strategy. The researcher also provided some evidence on the importance of trust and possibly employment status in determining consumer’s usage of alternative delivery channels (Laukkanen (2006a), Laukkanen (2006b)).
According to Internet Banking Ibrahim et.al. (2006) the key dimensions of electronic service quality identified by UK banking customers include the convenience and accuracy of electronic banking operations; the accessibility and reliability of service provision; good queue management; service personalisation; the provision of friendly and responsive customer service; and the provision of targeted customer service. The first two factors, the convenience/accuracy and accessibility/reliability of service provision, have significantly greater edge in explaining the e-service quality perceptions of the surveyed UK banking customers than the other identified dimensions, including good queue management, service personalisation, and the provision of friendly, responsive and targeted customer service.

Adhikari (2006) identified that perceived benefits; security, human touch, physical reach and price premium have emerged as important factors in declining the technological inclination. Uppal and Kaur (2006) found that the overall efficiency of e-banks is better as compared to that of traditional banks and there has been a fast shifting of bank customers from traditional to e-banks. This conveys the advantages of e-channels in terms of cost and quickness. There is no complaint from the customers for delay in e-banking functions. E-banks have complaints against service charges and ATM problems. Nonetheless, bank employees feel that the customer service in terms of timely services, behavior of employees etc, is better in e-channel banks.

Banks need to exploit service quality, credibility, and confidence as competitive tools and to ensure they communicate with and educate consumers about services that are quick and efficient to use. The key driver being to familiarise the consumer with the processes and benefits of the service and encourage usage as second nature. The results of the conjoint study by Laukkanen (2007) suggested that internet and mobile users differ in their preferences toward electronic channels’ attributes in bill paying. It seems that for internet users the screen size, followed by the location and the response time are the most important channel attributes in bill paying. For mobile users, however, the location, followed by the screen size and response time are the channel attributes of greatest interest when using the service. The cluster analyses showed that the attributes meet different needs from different customer segments.
Calisir and Gumussoy (2008) identified that Internet banking, ATM, and phone banking substitute each other. If firms give more importance to one of these alternatives, less importance can be given to the others, because the customer profile of the channels are similar. Internet banking achieves high success rates through coordination with brick and mortar and bank branches in stores. Brick and mortar and Internet banking are supportive banking channels.

Poon (2008) revealed about the user's adoption of e-banking services in Malaysia in which privacy, security and convenience factors play an important role in determining the users' acceptance of e-banking services with respect to different segmentation of age group, education level and income level. E-banking provides higher degree of convenience that enables customers to access internet bank at all times and places. Apart from that, the accessibility of computers is perceived as a measure of relative advantage.

2.4. FACTORS INFLUENCING THE ADOPTION OF ATMs

Here, a detailed review of the research on different aspects of ATMs conducted in various parts of the world is given.

Rogers (1961), in his Diffusion of Innovation theory, identified five characteristics or attributes of innovations that affect the rate at which innovations are adopted; their relative advantage, compatibility, complexity, divisibility (trialability), and communicability (observability). Additional characteristics were later adopted; perceived risk by Ostlund (1974) and financial and social cost by Zeithaml (1981). Ostlund in his study on expected relationship between perceived ATM attributes and ATM usage clearly established that ATM usage is positive to the attributes of relative advantage, compatibility, trialability, and observability and negative to the attributes of complexity and risk.

Studies regarding demographics of ATMs can be seen in Hood (1979) and determinants of ATM activity can be seen in Murphy (1983), which provides evidence of the association between consumer's acceptance/non-acceptance of ATMs and personal characteristics. Swinyard and Ghee (1985) found that ATM cardholders differed from no cardholders on several attitudinal characteristics. ATM card holders were found to have more favourable attitudes towards ATMs, towards change, and towards computers, and to
be more venturesome and have more self-confidence. In 1986, Stevens in his study identified the association of adoption and usage of ATMs and psychographic characteristics of the customers. While the information gained from such association has been useful, it is also necessary that the research focus may need to be directed towards other factors.

Leblanc (1990) analyzed the perceptions of users and non-users of an automated service, using ATMs as the automated service and found that the main reason for using ATMs was an accessibility factor involving the perceptions of being fast, easy to use, improving the quality of service, and reducing costs. The main reason non-users gave for not using ATMs was a preference for human tellers over machines. Non-users perceived ATMs as too complex, and felt that they were too risky to use.

Howcroft (1993) suggested that some consumers have positive attitudes towards ATMs based on dominant perceptions of convenience/ accessibility/ease of use. Additionally, Leonard and Spencer (1991) found that consumers perceive that ATMs are indicative of success and contribute towards a positive organisational image. Alternatively, a number of negative attitudes towards ATMs have been identified.

According to Burgoyne et.al. (1992), ergonomic problems were not a major deterrent to using ATMs. The major deterrents were more psychological and pragmatic that is convenience was not a sufficient justification for the perceived risks associated with ATMs. These deterrents included the general types of problems encountered by users, the bases of people’s mistrust of machines and computer technology, and the more specific ergonomic problems associated with features of the human–machine interface.

The most frequently ranked complaints about ATMs in a Kuwaiti sample (El-Haded and Almahmeed (1992)) were ATM breakdowns, improper maintenance and lighting and inconvenient locations. The majority of these problems can be corrected by a combination of design changes and ATM training.

Robert and Philip (1994), examined the association between consumer perception of ATM attributes and usage pattern by identifying the variables of convenience, social cost, compatibility, complexity, trialability, observability and perceived risk which distinguishes users and non-users, clearly shows that the most important perceived attribute is convenience. ATMs in Australia are still not performing to their full potential
and by and large have not been accepted as innovations which can fully replace human
tellers in nominated functions, as is reflected by the perceptions of the majority of users
and non-users regarding ATM attributes.

Robert (1995) identified perceptual and demographic profiles of users of ATMs.
The three factors, which have been found to possess greater predictive efficacy, reflect
the most important considerations for retail banking service strategies. Users perceive
ATMs to be convenient, generally easy to use and more compatible with their lifestyles
than non-users. The researcher also identified a thumbnail profile of the ATM user as
being an individual who is younger, better educated, involved in the product/service class
(possibly occupation wise) and who uses the service innovation because perceived
benefits of the attribute of the innovation outweigh the perceived risks. Perceptual
variables are more powerful than demographic factors in predicting ATM usage.

According to Devlin (1995), customers can now withdraw funds using the branch
"counter", an ATM, at the supermarket and in some cases electronically. One of the most
obvious manifestations of this has been the large increase in the number of ATM
machines available for use by consumers. This has provided the benefit of constant
access to certain core services reducing the need to interact with bank staff for many
people.

According to Rogers and Fisk (1997) the most frequent ATM transaction was for
withdrawals, with people rarely making payments. There were significant age differences
for withdrawal, balance enquiries and transfers between accounts. Young and middle-
aged adults used ATMs for the above-mentioned transactions more frequently than did
older adults. Despite the success and widespread use of ATMs, a significant proportion of
bank customers cannot or will not use them, or experience difficulties in their
interactions.

The two major difficulties regarding ATM usage that arose in Rogers and Fisk
(1997) were the inconvenience of having to wait in line to use the machine and poor
visibility of the screen. Designers may therefore want to improve the visibility of the
screen as well as speed up the service process or provide more ATMs. Other difficulties
that emerged from the study were putting the card in the wrong way, forgetting the PIN
number, difficulty reaching the slots, the ATM running out of money and understanding how to do what needs to be done on the ATM.

Filotto et al. (1997) conducted their study on Italian bank customers to investigate demographic characteristics of ATM users and non users. Their findings indicate that the public has been largely reluctant to adopt the more innovative service mechanisms offered in spite of higher adoption rates among the younger users.

A Canadian study based on discriminant analysis by Marshall and Hastop (1998) classified ATM users and non users on five predictors. ATM use was found to be positively related to convenience, positive attitude towards ATM technology, familiarity with other technology and education whereas non users had more social orientation.

Palkar (2000) study found out that complete service as an attribute of bank patronage has emerged as a significant attribute, implying that customers' inclination to the private sector banks is influenced by the complete service offered by these banks which is on the deteriorating track in majority of public sector banks. The branch ATM is highly listed by the salaried and self employed people, while the offsite ATM is mostly visited by other category. There are very few, who visit both the centers. The self employed people, usually having current account in the bank, visit branch ATM, who enables them to carry out other banking activities. Usually their bank visit is fortnightly. The other category people including students, housewives and retired people usually visit the offsite ATMs who generally do not have any work in the bank and thus find it convenient to visit the offsite ATM. It can be said that visit to the branch ATM serves the dual purpose of carrying out the banking related work. This shows that usage of other facilities of ATM, other than withdrawal and deposit is low. But the gradual awareness and acceptance of the various facilities of ATM will surely divert the mass from the bank to ATM centers. Customers are not very confident in the use of ATMs for the purpose of deposit. A significant factor in deposit is a stamp acknowledgement after depositing which gives them the confidence of the transaction successfully completed, which is absent in the case of a ATM.

Thornton and White (2001) show that as the respondent becomes more positively oriented towards convenience, the usage of ATMs and EFTPOS increases. The opposite occurs for average usage of tellers, that is, as the respondent becomes more convenience
oriented, the average usage of human tellers decreases. The analysis demonstrates that a
customer's convenience orientation does affect his/her usage of ATMs, EFTPOS and
human tellers. These findings support previous findings that identified a convenience
orientation to be associated with desiring less personal service and greater use of self-
service technologies.

Wan et.al. (2005) revealed that ATM was highly adopted by all bank customers,
and adoption of it was positively associated with beliefs about its positive attributes.
Informativeness seemed to be the weakest aspect of ATM banking. The ATM channel
manager should seek ways to enhance informational content in this channel. More
financial information can be presented to the bank customers on the ATM display and
ATM services.

On examination of the average rankings for ATM services used, it was found that
ATM users used the technology mainly for withdrawals. The other uses included fund
transfers, balance enquiries, account payments, and deposits. Account payments are a
major source of frustration for individuals because they have to stand in queues, or they
have to post cheques, which are sometimes not credited to their accounts or are credited
late and attract interest. However, only 8 per cent of respondents chose to pay accounts
electronically via ATM. The reasons cited for not paying accounts by ATM included that
customers did not know how to use the service, or did not know the service existed, or
that beneficiaries did not have facilities, or other unspecified reasons. Deposits only
accounted for 2 per cent of ATM transactions because 100 per cent of the respondents
received salaries electronically into their accounts. Those who made deposits into their
accounts did so because they received payments other than salaries, by cheque or cash.

Lee and Schuamann (2005) found the extent to which financial service delivery
through ATMs can affect consumer evaluation and consequent behaviour can be
determined by the value of "ease of use" to the consumer as compared to other facets of
the service, i.e. human interaction, and its relative contribution to positive outcomes. One
explanation for widespread adoption is that an ATM must be both useful and easy to use
and that simply being useful is not enough to achieve a firm's goals widespread adoption
for its ATMs.
Bhayani (2005) observed that the maximum use of ATM is usually done only for the purpose of cash withdrawal and balance enquiry but in Rajkot, it is just a mini bank where one can access most of its functions, which would help the bank to reduce its burden at the branches. Moreover, there is a need to increase the number of ATMs. The debit card is used only as a substitute for ATM. The customers do not have faith in this facility. In this respect,

Comparisons between users and non-users have found that there were no differences in the amount of banking activities performed between these two groups, but that ATM users can be described as being younger, having higher occupational status (skilled or professional occupations), being significantly more educated, healthier (according to general self-ratings) and having higher incomes than non-users (Thatchera et.al. (2005)). There is a possibility, however, that these findings could have been confounded by the fact that people with higher incomes live in areas where they would be more likely to have convenient access to ATMs; therefore, these respondents would use them more often. ATM users also tended to have more computer experience and were more willing to use other types of technology, such as microwaves, videocassette recorders and answering machines. By inference then, non-users are older, less familiar with technology in general, have far less formal education (unemployed or unskilled occupations) and thus might require more intuitive user interfaces as well as instructions about how to use.

Poon (2008) observed that although customers considered that an ATM provides a narrow set of functionalities, they seemed to agree about the usefulness and adequacy of ATMs to undertake the available financial operations. Major advantages of ATMs were accessibility and speed of performance. Security concerns and technical failures were mentioned as disadvantages of ATMs. However, security concerns in ATM use were more related to physical security issues, and not so much to the possibility of violation of information systems, as in the case of Internet Banking.

In a study about consumer perception of ATM services by Sakthivel (2008), it was found that convenience is the most important factor which influenced the customers of ICICI and SBI to opt for ATM services. According to Rudva and Yella (2008), 50 percent of their respondents stated that their bank’s ATM centre is conveniently located.
for them but the remaining half expressed difficulty in reaching the centre. They felt that
the ATM centre is far off from their residence/place of work and it is on road with high
traffic density.

2.5. FACTORS INFLUENCING THE ADOPTION OF INTERNET BANKING

Adams et.al. (1992) noted that there have strong correlations between ease of
learning and ease of use. Rayport and Sviokla (1994) emphasise the "pricing" aspect for
electronic distribution of goods and services. Competitive pressures would also require
banks to offer Internet banking. New players such as software and telephone companies
will be interested in entering the online banking market.

O'Connell (1996) identified lack of access to computers/internet as one of the
possible reasons for slow adoption of internet banking. As regards the use by bank
customers of Internet banking, it has been estimated that only about 1 per cent of the
retail transactions are done over the Internet (Ernst and Young (1996)). "Advance bank,
a smaller bank which was quick to adapt new technology and started to provide net
banking one and a half years ago, has only 5,000 active users". Availability of access to
computers/Internet is a prerequisite for adoption of Internet banking. The more
widespread the access to computers/Internet, the greater the possibility of use of Internet
banking. O'Connell (1996) identified lack of access to computers/Internet as one of the
possible reasons for slow adoption of Internet banking. It found "security concerns" as an
important reason for slow growth of Internet banking in Australia. Thorton Consulting
(1996) conducted a survey in the USA which focused on banks and concluded that 67
percent of the banks felt that "security concerns" is the major apprehension about
Internet banking. The Wallis Report (1997) stated that technological innovation must be
easy to use to ensure customer take-up or acceptance and if security is improved
households will conduct their financial transactions over the Internet. It observed that for
consumers to use new technologies, the technologies must be reasonably priced relative
to alternatives. Thus, if Internet banking is not being adopted it could be because it is not
reasonably priced.

A report on Internet banking in Australia finds that "security concerns among
banks and customers", are keeping both away from Internet banking (ABF (1997)).
Probing those factors that lead to behavioural intention, the authors found evidence that perceived ease of use, perceived usefulness, and perceived credibility all had a significant positive effect on people's intention to adopt Internet Banking.

Transactional Internet banking is growing rapidly. It has been estimated that 60 per cent of retail banking transactions will be online in ten years' time (Barwise (1997)). Booz et.al. (1997) on Internet banking shows that "up to 20 per cent of retail and 30 per cent of corporate customers will use some form of Internet banking capability within the next five years". "Internet banks can operate at an expense ratio of 15-20 per cent compared to 50-60 per cent for the average bank". Thus, by encouraging customers to use the Internet for banking transactions, the banks would save considerable operating costs.

In a survey conducted in the USA, Katz and Aspden (1997) found that 17 per cent reported "convenience as a way to do banking" a very important reason for becoming an Internet user, and 30 per cent reported that it was an important reason. The branch banking segment consists mainly of older, non-computer literate persons, who value personal relationships (Heskett et.al. (1997)). These customers value the face-to-face contact with the bank teller and emphasise a trustful relationship. They do not own a PC and do not work with information technology. Today this segment is still large and important but it is shrinking. In many ways the telephone segment is similar to the branch segment. Some of these customers have not had the time or the resources to learn to use a PC. Some of them do not use information technology at work and have not learned it in school. Contrary to the branch segment, they do not value the personal interaction, but they like the convenience, accessibility and time saved, which are the consequences of being able to perform the banking activities at home. They possess credit cards and rarely visit a branch. As the PC and Internet segments grow, this segment is likely to shrink. The customers belonging to the PC segment are all computer literate, they have a modem and many of them are Internet users. Most of them have a credit card and do not value the personal interaction in a bank branch. They like the convenience and time saved that the PC bank provides. Today, the segment consists of mostly younger persons and it is dominated by males (Mols (1998a)).

Oliver (1997) asked the critical question of whether customers will accept the electronic form of receiving information and performing transactions. Booz et.al. (1997)
assessed the strategic impact of Internet banking on financial services industry and in particular the set-up and operating cost of Internet banking.

A study by Ernst and Young (1998) finds that financial institutions are not sure about customer acceptance of e-commerce.

Lack of customer access to suitable PCs as the reason for low usage of electronic banking in the UK and Ireland. Sathye (1999) conducted a study on the factors affecting the adoption of Internet banking by Australian consumers which revealed that security concerns and lack of awareness about Internet banking and its benefits stand out as being the obstacles to the adoption of Internet banking in Australia. The evolution of electronic banking, such as internet banking from e-commerce, has altered the nature of personal-customer banking relationships and has many advantages over traditional banking delivery channels. This includes an increased customer base, cost savings, mass customization and product innovation and the offering of services regardless of geographic area and time (Mols (2000)).

A growing phenomenon in financial services is the use of the internet as a channel for financial services. The internet bank usage might however not be easy for the consumers. Consumers’ use of internet banking requires acceptance of the technology, which can be complicated because it involves the changing of behavioural patterns (Meuter et. al. (2000)). Technology, on the one hand, can simplify consumers’ understanding of exchange, but on the other hand, it can make consumers’ understanding more difficult.

Aladwani (2001) highlighted security, regulations, consumer privacy, and bank’s reputation as the main future challenges in the adoption of Internet Banking by Kuwaiti banks. In Turkey, Polatoglu and Ekin (2001) listed nine factors that, according to the authors, influenced the diffusion of Internet Banking. These were: “relative advantage”, observability”, “trialability”, “complexity”, “perceived risk”, “type of group”, “type of decision”, and “marketing effort”. The authors concluded that those customers, who use Internet Banking for the longest time or who use more of its services, find Internet Banking to be very reliable.

According to Goldfinger (2001), security was seen as a major obstacle to Internet banking. Banks were concerned about unauthorised access to their systems, and
customers were concerned about the safety of their personal data and the risk of fraudulent transactions. Banks have been able to manage security with minimal repercussions. However, according to Hickman and Katkov (2001), banks are exploring alternate security measures such as electronic signatures, digital certificates, smart cards and biometrics. A major problem with most of these measures is their complexity and cost to adopt and maintain. According to Outwater (2001), the e-purse bombed several years ago, cards have been lukewarm at best. Other researchers have also found trust issues and risk perception to be crucial drivers of internet banking adoption (Mols (2001), Bradley and Stewart (2002)). Furthermore, internet banking is an exchange situation that lacks physical presence of the branch and lacks personal interaction. In such a unique environment, trust has been found to be of key importance (Mukherjee and Nath (2003)).

In Webchek survey (Webchek (2002c)), it was revealed that the main use of Internet banking was viewing accounts, sourcing information, and making third party payments. It was not being used heavily for transactional purposes. The bulk of transactions were conducted on automated telling machines (ATMs), followed closely by transacting at a branch. Those customers who used ATMs tended not to be online bankers (Webchek (2002b)).

In a study about Internet-based e-banking and consumer attitudes by Liao and Cheung et.al (2002), it was revealed that individual expectations regarding accuracy, security, transactions speed, user-friendliness, user involvement and convenience were the most important quality attributes in the perceived usefulness of Internet-based e-retail banking.

According to Weeldreyer (2002), Internet banking is not living up to the hype that surrounded it a few years ago. Customers’ adoption rates are low, and their interest in Internet banking is waning. A major problem is that banks are forgetting the traditional rules of business, such as listening to customers and delivering the satisfaction that they are willing to pay for.

Webchek (2002d) identified the barriers to Internet banking in South Africa as including lack of personal attention, poor information and unreliable service. Those customers not banking online were also concerned with the perceived lack of safety of
online transactions. Based on these results, the typical Internet banker among university employees is a white male, aged between 25 and 34. This ties in with the study of Singh (2001), in which it was found that the typical Internet user was Indian, male, and aged 25-34. The ATM is still the preferred means of banking for respondents, with 92 per cent indicating that they used ATMs for most of their banking. The frequency of ATM usage was 49 per cent monthly, 34 per cent weekly and 17 per cent daily. 31 per cent use the Internet for banking. The frequency of Internet banking usage ranges from 59 per cent monthly to 29 per cent weekly and 12 per cent daily. It is clear that banking is a monthly activity, and would correspond with people’s paydays. The reason for the extensive use of ATM is their ability to dispense money.

Suh and Han (2002) in their study verified that an additional belief, trust, is one of the most important determinants of customer acceptance of Internet banking. Moreover, trust had a more direct effect on a customer’s attitude than perceived ease of use in the Internet banking context, while perceived ease of use had a greater total effect on customer’s actual use.

Internet banking is of great benefit to customers: time and cost saving, no dependence on location and time of day, quick responses to complaints, and provision of more services. All of these benefits enhance the performance of customers’ banking. A customer will, therefore, expect enhancement of the performance of his/her banking when he/she uses Internet banking.

The customers feel unrestricted while using Internet banking. Liao and Cheung et.al. (2002) stated that willingness to use Internet banking depends on the expectations of accuracy, security, network speed, user-friendliness, user involvement, and convenience. User involvement usually means the control the individual can exercise over a process.

Gerrard and Cunningham (2003) used 41 statements to measure the characteristics relating to the adoption of Internet Banking and innovations by Singapore consumers. Their factor analysis extracted “social desirability”, “compatibility”, “convenience”, “complexity”, “confidentiality”, “accessibility”, “economic benefits”, and “PC proficiency” as the eight influential factors of adoption. They identified that consumers who were more financially innovative had a higher probability of adopting electronic
banking than less financially innovative consumers. They also found that consumers who were non-adopters of electronic banking could be differentiated by their lower computation proficiency and computer skills.

Sohail and Shanmugham (2003) identified that Internet accessibility, awareness, attitude towards change, computer and Internet access costs, trust in one’s bank, security concerns, customers reluctance to change, ease of use and convenience are the major factors affecting the adoption of Internet bank services in Malaysia. The more affluent members of the sample appear to have a greater inclination towards e-banking. Furthermore, the fact that 20% of the sample respondents had already adopted e-banking services is encouraging and is indicative of a bright future for e-banking in Malaysia.

Bradley and Stewart (2003) showed that internet banking is a very important issue in retail banking. However, internet will contribute as part of a multi channel (bricks and clicks) strategy, rather than as a stand alone (clicks only) strategy. The developing functionality of internet banking may enable commercial banks to achieve competitive advantage through delivering higher perceived customer value.

Mattila et.al. (2003) show that internet banking was the third popular mode of payment among mature customers in Finland. Household income and education were found to have a significant effect on the adoption of internet as a banking channel so that over 30 percent of wealthy and well educated mature males make e-banking their primary mode of making payments. Perceived difficulties in using computers combined with the lack of personal service in e-banking were found to be the main barriers of internet banking adoption among mature customers. Internet Banking was also found to be more unsecured among mature customers than bank customers in general.

Akinci et.al. (2004) conducted a study to develop an understanding of consumer’s attitudes and adoption of internet banking among sophisticated customers, revealed significant differences between the demographic profiles and attitudes of users and non users. While the internet banking users were mid-aged, male, more technology oriented, and convenience-minded consumers, non-users were younger (below 30 years of age), or older, more traditional channel oriented, and hesitant consumers, lacking confidence in internet banking services compared to the services delivered at bank branches. The right mix of banking channels depends not only on the channel characteristics, but also the
preferences of the consumers within a particular market. The technologies of electronic banking are already very advanced, especially in the USA (Kolodinsky et.al. (2004)).

The users of Internet banking do not believe in the reliability of the Internet banking web sites. Customers are very private about their finances and are concerned with the security offered by Internet banking (Furnell (2004)). The review gives evidence that studies related to internet banking is very less in Kerala. Therefore, in this paper an attempt has been made to examine the awareness and adoption of internet banking in the state.

A study regarding the consumer acceptance of online banking by Tero and Kari (2004), indicated that perceived usefulness and information of online banking on the Web site were the main factors influencing online-banking acceptance. Another study conducted to develop an understanding of consumer’s attitudes and adoption of internet banking among sophisticated customers by Akinci et.al. (2004) revealed significant differences between the demographic profiles and attitudes of users and non-users. While the internet banking users were mid-aged, male, more technology oriented, and convenience-minded consumers, non-users were younger (below 30 years of age), or older, more traditional channel oriented, and hesitant consumers, lacking confidence in internet banking services compared to the services delivered at bank branches. Wan et.al. (2005) found out that among the four banking channels, internet banking holds the greatest potential for development in the banking industry in Hong Kong. This is because the level of adoption is still not very high – the market is not yet saturated. Interestingly, beliefs about the convenience of internet banking were not correlated with its adoption. Perhaps most bank customers were fully aware of the convenience internet banking could bring. What really mattered were the other three attributes of the channel (i.e. informativeness, user-friendliness, and assurance). These are the areas in which channel managers have to work hard.

Akinci et.al. (2004) who examined internet banking adoption in Turkey found that while internet banking adopters are more technology oriented and convenience-minded individuals, non-adopters are more traditional channel oriented, and hesitant customers, lacking confidence in internet banking services relative to the services given through branches. Their findings also showed that security, reliability and privacy issues;
download and transaction speed; and user-friendly web site, were among the most significant determinants of the customers' bank selection behaviour.

Lee and Schuamann (2005) observed significant differences between current adopters and persistent non-adopters of internet banking in terms of perceived service, attributes, perceived risk, and compatibility. Current adopters of internet banking appear to perceive convenience and quick service as important service attributes, compared to persistent non-adopters. Persistent non-adopters, however, perceive better rates and lower service to be more important than do current adopters. Persistent non-adopters are also more likely to perceive risks than current adopters, because they rate security and size of bank to be more important than do current adopters.

According to Barrutia and Echebarria (2005), Internet provides retail bank consumers with easier access to accurate, recent and unbiased information about products, thus diminishing information asymmetry. The Internet increases cost transparency for retail banking consumers. As a consequence of Internet retail banking consumers exercise greater control over the communication they receive and generate. The Internet reduces concerns about imperfect commitment. The Internet reduces retail bank consumers switching costs.

In a study about customer acceptance of Internet banking in Estonia, Eriksson et.al. (2005) suggested that internet banking use increases insofar as customers perceive it as useful. The perceived usefulness is central because it determines whether the perceived ease of use of internet banking will lead to the increased use of internet banking. Put differently, a well-designed and easy to use internet bank may not be used if it is not perceived as useful.

Another study conducted by Christopher et.al. (2006) showed that the service quality, perceived risk factors, user input factors, employment and education are the dominant variables that influence consumers choice of electronic banking and non electronic banking channels. 27% of the sample population adopting Internet Banking indicating the market is not yet saturated, a fact who also found that the market was developing but that there was still considerable development opportunities. Of those who adopted Internet Banking, the major services used are account transfer; bill settlement, account balance inquiry and interest rate/exchange rate/stock quote inquiry. The main
reasons for bank customers adopting Internet Banking were seen to be the ability to perform banking transactions anywhere, anytime and quickly. On top of that, incentive programmes offered by the banks to promote Internet Banking were also seen as accelerators of the adoption. The implications of these findings for the bank sector are significant in that, in order to survive banks will need to move away from traditional bases of retail bank competition i.e. fees, interest and customer loyalty, to a new internet based form of competition based on cost reduction; customer retention; responsiveness; credibility; security; ease of use; and wider scope of products and. As such, the findings highlight that there is still considerable market share to be gained and thus first mover advantage opportunities.

Katariina (2006) formed four clusters of consumers on the basis of their perceptions of internet banking services such as the suspicious, eager, reluctant and the practical. The smallest cluster, the suspicious, is formed by consumers who question the security and convenience dimensions of Internet Banking, but find the auxiliary features slightly useful. A fifth of them is over 44 years old and quite highly educated. The eager comprises of youngsters are significantly more positive towards Internet Banking. The reluctant find Internet Banking inconvenient and they do not perceive the benefit of enhanced social status or the usefulness of auxiliary features. The practical, value the dimensions of convenience and security the most.

Customers will also benefit from the convenience, speed, and round-the-clock availability of Internet banking (Cheng et.al. (2006)). The willingness to use the internet and telephone for financial services is influenced by the individual sense of personal capacity or capability to engage with these service systems, the perceived risks and relative advantages associated with their use, and the extent to which contact with service personnel is preferred or deemed necessary.

Gerrard et.al. (2006) has identified the various factors which explain why certain consumers are not using internet banking. The two most frequently mentioned factors were perceptions about the risks associated with internet banking and the lack of perceived need. Other less frequently mentioned factors were lack of knowledge of the service, inertia, inaccessibility, lacking the human touch, pricing and IT fatigue. The findings suggest that marketing campaigns which aim to encourage consumers to become...
internet bank users are likely to attract more males, the higher income groups, the better educated, those who have already used the internet to buy services and/or goods and those who are knowledgeable about internet banking.

Ndubisi and Sinti (2006) show that four attitudinal factors have strong influences on adoption namely importance to banking needs, compatibility, complexity, and trialability, whereas risks has a weak influence. Importance of the internet to banking needs significantly predicts internet banking adoption.

Laukkanen (2007) suggest that internet and mobile users differ in their preferences toward electronic channels’ attributes in bill paying. It seems that for internet users the screen size, followed by the location and the response time are the most important channel attributes in bill paying. For mobile users, however, the location, followed by the screen size and response time are the channel attributes of greatest interest when using the service. Internet banking services include ‘inquiring the account balance,’ depositing loan applications’, third party payment’, ‘utility bill payment’ and on-line purchases’. The usage of the internet banking review was clearly linked with exposure to internet. More the access to internet more was the usage of internet banking services. Concern over confidentiality of information was considered among the top barriers to usage of internet banking services. Social contacts, ease-of-use, price, speed and security seem to play a significant role in customer’s profile. Consumers who are at ease with computers and use them also for other purposes find it convenient to start banking over the internet. One of the main reasons why the internet banking user base is limited to some customer groups is the poor connectivity. The results indicate that usage is strongly affected by subjective norms. In other words, opinions of friends, family or peers are highly regarded as important factors when deciding about the use of internet banking services. Most customers are aware of the internet banking services offered by their banks but they do not register for internet banking. The more customers show concern for security, the less likely they will be to register for internet banking.

The Internet and Mobile Association of India (IAMAI) (IAMAI Report (2006)) found that about 23% of the online users in India preferred Internet banking as the banking channel to carry out their transactions, second only to the ATM, which is preferred by 53%. Out of 6,365 internet users sampled, 35% preferred online banking
channels in India. In another study conducted by IAMAI in 2006, it was found that people do not prefer online financial transactions due to many reasons such as security and facilities concern, preference for face to face transactions, lack of knowledge and lack of user friendliness of the channels.

According to Malhotra and Singh (2007) majority of customers are now showing greater interest in the new ways available to manage their accounts through accepting the internet technology in banking. Customers were thrilled with the speed and convenience of the internet banking services comprised 60 percent of male and 40 percent of females who are relatively young, educated and serving in Government offices or the private industrial houses.

Yiu et.al. (2007) identified that perceived usefulness, perceived ease of use, perceived risk of internet banking and personal innovativeness on information technology, have a positive relationship with internet banking adoption, with different degrees. Perceived usefulness has the strongest correlation, followed by perceived ease of use and perceived risk. Personal innovativeness in information technology has shown the weakest correlation with Internet Banking adoption.

De Young et.al. (2007) state that brick-and-mortar banks used the Internet channel as a complement to, rather than a substitute for, physical branches. Internet banking offers ease of use and access to the customers. Many people know how to use Internet and have the opportunity to access either from their workplace or from their home.

Ozdemir et.al. (2008) observed that there were significant differences between adopters and non-adopters of the service in terms of their perceptual, experience and consumer related characteristics. Internet banking adopters perceived internet banking use as less risky, more user-friendly and more useful compared to internet banking non-adopters. Internet banking non-adopters who intend to use the service in the future (i.e. later adopters) perceived internet banking use as less risky and more useful compared to non-adopters who do not intend to use the service (i.e. laggards). Internet banking adopters were also found to have more experience with mobile internet, and have higher income and longer working hours.
According to Poon (2008) individuals who deem internet banking useful in fulfilling their banking needs such as, the need to have better control of their own financial accounts, and those seeking for the most convenient channel to have close monitoring of these accounts, etc. are more promising prospects. Compatibility is another determinant of adoption. Given that individuals have already established personal banking norms, lifestyle, finance management system, and account monitoring mechanism prior to the advent of internet banking, their acceptance or rejection of this new mode will rely greatly on the extent this new mode accommodates or rejects all or some of the past values. Complexity also has significant relationship with intention to adopt internet banking. Another component of attitude supported in this study is trialability. Thus, potential adopters will be more inclined to adopt internet banking if they can try it out first. Surprisingly, risk has no significant influence on adoption. A plausible reason for this outcome could be the tight security impression the banks in Malaysia have managed to sell to customers, which may have resulted in perceived risk not being a top issue when considering adoption.

Another study conducted in the Indian context by Sofri and Harshid (2009) which identified that the acceptance of internet banking is being explained by factors like education, banking literacy, computer literacy, internet facilities, cost factor and banking facilities.

2.6. FACTORS INFLUENCING THE ADOPTION OF CREDIT CARDS

In today’s modern economy, credit cards are being widely used. India too has been rapidly venturing into the plastic money business i.e., the credit card business. In 1951, the first bank credit card appeared in New York’s Franklin National bank for loan customers. The idea, though, had already been experimented in various forms much before. In India, Andhra bank was the first to introduce credit cards in 1981.

According to Frimpong (1999) age, experience and different classes have different attitudes towards credit usage and people of higher education and socio-economic standing have more favourable attitudes towards credit than others and tend to use credit cards. Security-oriented groups tend to be older and have high incomes whereas the task-oriented groups include younger and more modern bank customers.
Against this background, it is important for the financial services marketer to anticipate, acknowledge and deal with many types of customers.

Meidan (1996) suggested that the older generation is less receptive to credit cards and that financial constraint is one of the major factors governing their usage frequency. A field study by Chan (1997) in Hong Kong examined the demographic and attitudinal difference between active and inactive credit card holders and found that income was the single most important variable that influence frequency of card usage and identified a positive relationship between user's attitude and their usage frequencies.

According to Gorden and Natarajan (1999), the credit cards are largely preferred because they are simple to operate and easy to carry. The holders are relieved from the risk of carrying cash or cheque book with them; owing to revolving nature of credit, the customers can take advantage of it, and when he pleases, within the overall limit; the purchasing power of the cardholder increases to the extent of credit limit given in the card, if wisely used, credit cards can provide them extra money, interest free. All that one has to do is to settle the bill on time. Kalavathy (2000) opined that during the past decades, plastic cards have become more and more popular in India. The reason for popularity has now shifted from being recognized as a status symbol to convenience, security and worldwide acceptance.

In a prior study about the correlates of credit card acceptance and usage in an advanced developed developing Middle Eastern country by Erdener and Orsey (2000), it was found that there is a close relationship between spread of credit card usage in a country and its stage of socio-economic development. With increased level of socio-economic and technological development, credit card usage particularly increases in developing countries. An empirical research study conducted in urban Turkey population indicates that there is certain relationship between socio-economic and demographic characteristics of Turkish consumers and their credit card holding and usage behavior.

According to Bandyopadhyay (2004), Indian credit card industry has been growing at 31 percent compounded annual rate. In fact, the growth in the past three years has been higher than what the industry saw between 1990 (when Citibank issued the first credit card) and 2000. Overall, about 0.6 percent of personal consumption expenditure in India is through credit cards. This means that for every Rs.100 spent on consumption,
only 60 paisa is routed through credit cards. The comparable figure in the US is 16 percent. The Asia-Pacific region also shows higher usage of credit cards.

In a prior study about the extent of usage of credit cards in Coimbatore by Ramalinga (2005), it was found that 42 percent of cardholders possessed the card in the past four years. The reasons for the increase in the number of cardholders in the recent past could be attributed to the increasing awareness of the usage of cards and the wide acceptance of the credit by merchant stores. Another study conducted in China about the adoption and usage of credit cards by David and Steve (2007) revealed that the Chinese customers were comfortable with the holding and usage of credit cards and particularly recognized their value for spending on travel and entertainment.

In India, Reddy (2007), it was revealed that today, India has close to 50 million credit card users. The number of credit and debit cards in active use in 2007 has been in the range of 25 and 40 million and the number continue to multiply. However the idea of keeping multiple cards is relatively a new trend. For good or bad this trend is catching up and the Indian credit card industry is witnessing this shift from one to multiple.

2.7. FACTORS INFLUENCING THE ADOPTION OF MOBILE BANKING

The banking industry is among the leading sectors in adopting and utilizing the internet and mobile technology on consumer markets and consequently its service delivery has undergone changes unprecedented in its history. The development of electronic banking services via multiple electronic channels has made it possible to provide new kinds of added value for customers.

Lockett and Littler (1997) and Al-Ashban and Burney (2001) have analysed the development of telephone banking in detail. The mobile phone as a channel for service consumption offers enormous potential since today, a mobile phone is an integral part of customers’ lives and a growing number of these devices are also equipped with internet connection. Currently mobile banking services enable consumers, for example, to request their account balance and the latest transactions of their accounts, to transfer funds between accounts, to make buy and sell orders for the stock exchange and to receive portfolio and price information.
The use of mobile banking is still in its initial stage and more research in the field is needed. Technological development in the mobile sector, like 3G and improved displays of the devices, will likely change the current situation and improve wireless service consumption. However, data input may still be a bottleneck in the consumption of some mobile financial services without improvements like in-built barcode readers. The barcode readers could be used to reduce the burden and perceived uncertainty of the customer and increase convenience in mobile bill paying by copying the account numbers, index numbers, the sums and due dates from the printed bill into the mobile phone. The customer would only need to accept or reject the payment. Future research could focus on more convenient data input methods in mobile bill paying.

Some of the most recent studies have concentrated on mobile banking (Barnes and Corbitt (2003)). The mobile phone as a channel for service consumption offers enormous potential since today, a mobile phone is an integral part of customers' lives and a growing number of these devices are also equipped with internet connection. Currently mobile banking services enable consumers, for example, to request their account balance and the latest transactions of their accounts, to transfer funds between accounts, to make buy and sell orders for the stock exchange and to receive portfolio and price information. Previous studies indicate, that factors contributing to the adoption of mobile banking are related to convenience, access to the service regardless of time and place, privacy and savings in time and effort (Suoranta (2003)). However, Suoranta (2003) found that mobile services were not used since they were perceived as impractical and not sufficiently diversified. In spite of the advantages the use of the mobile phone in banking actions has remained small. There seem to be some inhibitors that slow down the use of mobile channels in banking transactions. Furthermore, security issues are argued to be among the greatest concerns in the adoption of mobile banking (Brown et al. (2003)). Previous studies indicate that perceived financial cost and perceived complexity (Lee et.al. (2003), Scornavacca and Barnes (2004), Luarn and Lin (2005)) inhibits the use and adoption of mobile banking services.

The simultaneous and increasing diffusion of mobile phones and especially WAP-enabled devices has made the transformation of banking applications to mobile devices a logical development in electronic banking (Pousttchi and Schurig (2004)). Indeed,
mobile banking has emerged as a wireless service delivery channel providing increased value for customers' banking transactions. However, despite its many advantages, the use of mobile phones in banking services is still in its infancy and the internet retains its position as the leading channel in electronic banking.

Contrary to previous findings, some studies have argued that security issues are not perceived by customers to be major obstacles in banking transactions (Laukkanen and Lauronen (2005)). These studies state that, mobile banking was found a secure way to conduct banking transactions by the users.

The results of Laukkanen (2007) described customer perceived positive and negative value perceptions to fund transfer via internet and mobile phone. The most noteworthy differences between these two channels are related to the location free access to the service and the display of the device. The most important contributor to mobile banking seems to be the ability use the service wherever wanted, which is related to the capability for immediate actions and time savings in service consumption. The keyboard and the display of the device seem to be the clearest inhibitors to the use of mobile bill paying service whereas in the use of the PC the case seems to be the opposite.

2.8. SATISFACTION AND EXPERIENCE OF E-BANKING DELIVERY CHANNELS

Buyers' satisfaction with an innovation directly affects their intention to use and the actual usage (Davis et.al. (1989)). Hoffman and Novak (1996) find that there is a significant correlation between download speed and user satisfaction.

Research has also found that high levels of satisfaction with currently used systems negatively affect the likelihood of adoption of new ones (Chau and Tam (1997)). This study shows that buyers' satisfaction with traditional banking may serve as an obstacle to their continuance of Internet banking. Buyers' perception of Internet banking as useful results in their continuance of Internet banking usage, but if buyers are also satisfied with traditional banking, they seem to prefer traditional banking channels. Based on empirical evidence in The Netherlands, Bloemer et.al. (1998) put forward that quality in bank services would have an indirect effect on loyalty via satisfaction and that satisfaction would have a direct positive effect on loyalty. Satisfaction with bank services
is influenced by several factors such as the consumer typology and type of the delivery channel.

The features of a technology are likely to influence how the consumer makes sense of the seller’s service offer, which also influences use (Griffith (1999)). Buyer's satisfaction is the result of an evaluative process that contrasts pre-purchase expectations with the perception of performance during and after the consumption experience (McQuitty et.al. (2000)).

Trust has striking influence on user's willingness to engage in online exchanges of money and personal sensitive information (Friedman et al. (2000). In line with this, Moutinho and Smith (2000) emphasized that human and technology based delivery channels were greatly linked with the customers’ perceptions of how these bank services were delivered to them and pointed out that these perceptual outcomes would affect the level of bank customer satisfaction, retention, and switching. Another valid representation of technology use is the duration of the experience with the technology (Ricard et.al. (2001)). Very often, slow response time after any e-interaction leads to a delay of service delivery and makes consumers unsure about whether or not the transaction is completed (Jun and Cai (2001)).

The key to building and retaining a loyal base of long-term buyers is satisfaction and a positive correlation exists between the intention to continue usage and satisfaction. Satisfaction is determined by assessing the expectation of the technology and the confirmation of expectation following actual use. Lower expectations and/or higher performance result in greater confirmation, which in turn positively influences buyer satisfaction and the intention to continue usage (Bhattacherjee (2001)). What influences the buyers' level of satisfaction differs depending on whether the services are reached through traditional offline channels or through online channels; for online services, factors such as site design and payment methods must also be considered (Cho and Park (2001)).

Polatoglu and Ekin (2001) inferred that early adopters and heavy users of Internet Banking services were more satisfied with the services compared to the other customer groups.
Satisfaction is an ex-post evaluation of buyers' experience with a service and results in a positive feeling, indifference, or a negative feeling. When buyers find a particular channel to be convenient, time efficient, and price saving, they will be satisfied with the general effectiveness and efficiency of the electronic channel (Devaraj et.al. (2002)).

Research has shown that satisfaction influences buyers' loyalty (Hennig-Thurau et.al. (2002)). Perceived usefulness affects the level of satisfaction, which affects the expectations of future benefits, thereby influencing information systems usage (Rai et.al. (2002)). With reference to the type of the channel, Joseph and Stone (2003) argued that the ability to deliver services via technology appears to be correlated with high satisfaction with services deemed most important to customers. Consumers learn about goods and services to a large extent by the development of experiences from trial and error. Consumer experiences are a major determinant of consumer choice and preferences (Foxall (2003)). Turning to a technology context of use, the frequency of use has been found to capture the consumer's use of a technology.

Generally, the dimensions of satisfaction that are associated with a service include service quality, product quality, price, and location (Skogland and Siguan (2004)). Buyers' level of multichannel satisfaction with their bank is positively associated with their Internet banking continuance. If buyers continue using the Internet with improved results, the confirmation of better than expected results can influence the perceived usefulness in a positive direction. However, if continued usage generates worse results, this disconfirmation negatively affects the pre-established perceived usefulness (Hayashi et.al. (2004)).

Where multiple channels are used, buyers rarely consider them in isolation from each other which is why satisfaction with a particular channel is inextricably linked to multichannel satisfaction in the interface between buyer and seller (Balasubramanian et.al. (2005)).

Eriksson and Nilsson (2007) observed that Internet usage in a multichannel context is influenced not only positively by the potential users' perception of its usefulness but also negatively by their overall satisfaction with the service provider and their additional distribution channels. Perceived usefulness is a crucial determinant
whether buyers will continue their usage or not. If buyers perceive Internet banking to be useful, they will be more likely to use it. However, buyers’ satisfaction with traditional interaction channels in the bank may restrict their usage of Internet banking. If buyers perceive Internet banking to be useful but, at the same time, have high multichannel satisfaction, they tend to avoid using Internet banking. Buyers’ satisfaction is one factor that influences the buyers’ loyalty, but satisfaction does not guarantee loyalty.

Jazeela (2005) conducted a study on customer perceptions of banking products and services in Kerala with reference to specific customer segments in the urban area. Factors causing dissatisfaction among the bank customers are systems and procedures in banks have been made rigid keeping in view the legal, accounting and book keeping purposes. These procedures are cumbersome and considerably reduce the speed of delivery of services. Indian banks have been slow in adopting computerization. Electronic innovations have been half heartedly adopted. Coupled with the problem of inadequate capital to make investments in automation most of the banks continue to function in the old fashion. The customer service is limited to complaint handling rather than prevention.

There is a feeling among customers of Thiruchirappalli city that the charges for banking services are high (Selvam (2005)). As our customers are more money sensitive, the bank have to reconsider the charges for various banking services including credit card facility. In some banks cash is not available in time especially when customers demand large amount. It is the major reason for the dissatisfaction of customers in Trichy city.

2.9. CONCLUSION

Here, a detailed review of the relevant literature in connection with banking and electronic banking delivery channels was done. It is revealed that a number of studies were conducted in the area of awareness and adoption of e-banking delivery channels all over the world. But very few studies have been conducted in India. Coming to Kerala, a detailed study in this respect has not been initiated. Kerala state is declared as the first total bank literacy state in India. Again, Keralites are considered to be more techno-savvy. In this context, it is highly imperative to have an in depth study regarding the banking habits especially the electronic banking habits of the people of Kerala.
In this review, two models and all the variables used in these models are also discussed. Variables chosen for the present study are based on some of the variables of these models. Further in this review, a number of factors are seemed to have an influence on the adoption of the selected e-banking delivery channels. These factors can be bifurcated into two, demographic and perceptual factors.

Despite the fact that it is widely acknowledged that perceptual variables are far more successful as predictors of the innovation adoption than demographic variables, very few studies have been conducted to examine the association of perceptual variables with e-banking usage. Thus, the present study has been initiated to provide evidence regarding the association between customer acceptance/non acceptance of e-banking delivery channels and perceptual variables.
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