CHAPTER II

REVIEW OF LITERATURE

2.1 INTRODUCTION

It is relevant to refer briefly to the previous studies and research in the related areas of the subject to find out and to fill up the research gaps. The process commonly referred to as the review of literature entails a substantive explanation of the current knowledge, as well as theoretical and methodological contributions made by academicians, practitioners, researchers, etc., from time to time. Prior studies or research provide the much needed direction and scope for further studies while enlightening the researcher about the existing knowledge in the identified research domain. As an essential process, the literature review helps the researcher to understand how the research problem has been conceptualized and explored by earlier academicians, researchers, socialists, etc.

The review of literature helps researchers to gain a better understanding about the need of research, identification of variables, methodology considerations, and research instrument limitations of various available estimation procedures, lucid interpretation and reconciliation of the conflicting results. In case of conflicting and unexpected results, the researcher can take the advantage of knowledge of other researchers simply through the medium of their published works. Further, it also helps the researcher to conceptualize the problem and to choose the design of the present study.

The rapid growth in users and wider coverage of mobile phone networks have made this channel an important platform for extending banking services to customers. With the rapid growth in the number of Mobile phone subscribers in India (about 900 million as at the end of March 2013 and growing at about 40 million a month), banks have been exploring the feasibility of using mobile phones as an alternative channel of delivery of banking services. Given the mobile tele-density and the development of secure mobile technology solutions, banks are well-positioned to bridge the digital divide and introduce the unbanked sector to the financial mainstream in India.
With regard to research in this domain, several authors had analyzed the adoption of Mobile banking services and the banks performance in other countries. While a large number of research studies had been carried out on different aspects of the Mobile banking by economists and academicians in the developed countries, there are limited studies in emerging economies like India. In this chapter, the researcher presents the existing knowledge and ideas from studies on Mobile banking services and what their strengths and weaknesses in the present scenario. A detailed account of some of the key research outcomes has been presented below.

2.2 SUMMARY OF PREVIOUS STUDIES

Sohel Ahmed, Shah Johir Rayhan, Md.Ariful Islam and Samina Mahjabin (2012)\textsuperscript{13} used a descriptive research design to explore the reasons for the adoption of Mobile banking services among 120 bank customers in Bangladesh. The study found that majority of the respondents think that Mobile banking services saves time and costs less than the traditional banking services offered by these banks. Moreover, the study reported that these customers use Mobile banking for ‘Air-time top-up’ service. The study concluded that the potentiality of Mobile banking services is quite high and provided several suggestions for improvement.

Chian-Son Yu (2012)\textsuperscript{14} employed the Unified Theory of Acceptance and Use of Technology (UTAUT) and investigated the reasons behind the adoption of Mobile banking services among 441 respondents. The study found that an individual’s intention to adopt Mobile banking was significantly influenced by social influence, perceived financial cost, performance expectancy, and perceived credibility, in their order of influencing strength. Moreover, the study found that gender significantly moderated the effects of performance expectancy and perceived financial cost on behavioural intention, and the age considerably moderated the effects of facilitating conditions and perceived self-efficacy on actual adoption behaviour.


Soo Yeong, Ewe & Sheau Fen, Yap (2012)\textsuperscript{15} explored the motives for adopting to Mobile banking services using three sessions of focus group interviews. The study found that the perceived advantage over other mediums, perceived risk, usage complexity, past experience and awareness were potentially influencing the adoption of mobile banking.

Ahmed Dermish, Christoph Kneiding, Paul Leishman, and Ignacio Mas (2012)\textsuperscript{16} demonstrated the need for capitalizing on the Mobile banking medium for financial transactions because of the growth of mobile operations across the world. The authors contended that the branchless banking systems can take advantage of the increasingly ubiquitous real-time mobile communications networks to bring banking services into everyday retail stores, thereby alleviating the lack of banking infrastructure in the communities where poor people live and work. The authors have asserted for more empirical studies on the strengths of Mobile banking services of banks in Kenya. Citing the successful deployment of the MPESA scheme in Kenya, the authors examined the status and the drivers of global adoption of these schemes, usage patterns of customers and its impact on the socio-economic profile of the customers and other regulatory issues. The authors recommended the help of policymakers and practitioners on the need to take up continued efforts to create an enabling environment for branchless banking.

Vijay M. Kumbhar (2011)\textsuperscript{17} examined the customer requirements of Mobile banking services and the reasons for the failure or low adoption of such services in India. The author posited that the advent of communication-enabled information technology and increased cellular subscriptions provide a good platform for banks to offer Mobile banking as a new type of banking services that can provide efficient and effective financial services for unbanked and rural economies in India. The study found that despite this significant opportunity, banks and the customers face a number of problems and threats to take advantage of the Mobile banking system. Poor network coverage, security


\textsuperscript{16}Ahmed Dermish, Christoph Kneiding, Paul Leishman, and Ignacio Mas(2012) : Branchless and Mobile Banking Solutions for the Poor: A Survey of the Literature © 2012 Ahmed Dermish, Christoph Kneiding, Paul Leishman, and Ignacio Mas innovations / volume 6, number 4 81

\textsuperscript{17}Vijay m. kumbhar ,Assistant Professor, Scope and problems of Mobile banking solution for unbanked: a review of Indian economy JBFSIR Volume 1, Issue 5 (August, 2011) ISSN 2231-4288
fears, low cost effectiveness, difficulties in using mobile because of handset deficiencies and low IT literacy as some of the major reasons that result in the low or poor adoption of Mobile banking services in rural India.

Janet Hernandez, Jeff Bernstein, and Amy Zirkle (2011) examined the ways with which the Mobile banking services have been introduced around the world. The authors highlighted some of the key regulatory issues that have emerged with respect to Mobile banking and recommended the ways by which the governments, particularly the telecommunications and financial service regulators, can help to promote Mobile banking services to the customers.

Uppal (2010) examined the Mobile banking services of various bank groups in India with an idea of investigating the extent of Mobile banking among the various e-channels during the period from 2000-2001 to 2006-2007. The study reported that SBI group, nationalized banks and the old private sector banks have less percent of branches providing Mobile banking services. However, these banks are showing improvement in the percentage growth of Mobile banking services over the years consistently except during 2005-2006. The study also observed that most of the new private sector banks and the foreign banks are successfully providing Mobile banking service to their customers. Further, the study reported that private and foreign banks have more Mobile banking subscriptions compared to nationalized banks and older private banks. The author concluded that the development of Mobile banking services in India has been driven by the unexpected growth of cell phone users, which provide a greater scope for the Mobile banking improvement and its performance to result in efficiency and service quality for customers. The author suggested that banks should allow cash transactions of small amount as well to bring in more customers and the adoption of such services in rural and backward economies.

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18 Authors: Janet Hernandez, Jeff Bernstein, and Amy Zirkle, THE REGULATORY LANDSCAPE FOR MOBILE BANKING Telecommunications Management Group (TMG), Inc GSR11 Discussion Paper 2011
Wessels & Drennan (2010)\textsuperscript{20} in their empirical research using national web based survey among 553 bank customers found that perceived usefulness, perceived risk, cost and compatibility are the key reasons that influence a consumer’s acceptance of Mobile banking services offered by banks.

Hernan E. Riquelme and Rosa E. Rios (2010)\textsuperscript{21} in their work identified the factors influencing the adoption of Mobile banking among 681 users of internet banking services in Singapore with regard to intention to use, advantage of mobile device, ease of use, risk, social norms and usefulness. The study found negative associated between perceived risk and intention to adopt mobile phone for banking services. While the study reported factors such as usefulness and social norms influencing the users’ intention to adopt Mobile banking services, other factors like relative advantage and ease of use contributed indirectly through the perception of usefulness. The study found the gender of the users’ as a determining variable for the intention of using Mobile banking services. The ‘ease of use factor’ had a significant influence on female and the ‘relative advantage factor’ influenced male user’s perception of usefulness of Mobile banking services.

Koo & Wati (2010)\textsuperscript{22} in their empirical research among 100 users of Mobile banking services (Faculties, staffs and students) in Indonesia found significant concerns on the security of financial transaction at the time of using and effect of trust on the adoption of such services. The study further concluded that users’ trust in Mobile banking environment is influenced by information quality with regard to perceived usefulness of Mobile banking services, which in turn effect users’ satisfaction.

Li Ying & Can (2010)\textsuperscript{23} studied the consumer adoption decision of Mobile banking financial services among 132 Chinese users selected through non-random sampling


\textsuperscript{23}Li Ying & Zhang Can (2010): “Customer’s Adoption Decision Analysis of Mobile Banking Service”, \textit{International Conference Proceedings on Management and Service Science (MASS), (IEEE Conference)pp. 1-4}
technique. The study focused on five factors such as perceived usefulness, perceived ease of use, attitude, behavioural intention, perceived usability, consumption concept and consumer experience and concluded that the development of Mobile banking technology enabled financial services as easier, provide more stable and secure financial products and reduce human wastage and financial strength. The study concluded on the need to enhance the consumer perception of ease of use and perceived usability, which in turn would influence the intention to use such services offered by the financial service providers.

Rasheda Sultana (2010) discussed the existing models of Mobile banking and regulations in some countries (for example, Philippines, Kenya, South Africa). The study reported that M-banking or the payment system has been prevalent in all the countries studied and have been successful so far. The study concluded by highlighting some of the concerns that the financial regulators should consider and take up policy measures to improve the overall delivery of Mobile banking services across the globe.

Hsiu-Fen Lin(2010) used the ‘Innovation Diffusion Theory’ and knowledge-based trust literature and developed a research model to examine the effect of innovation attributes (perceived relative advantage, ease of use and compatibility) and knowledge-based trust (perceived competence, benevolence and integrity) on attitude and behavioural intention about adopting (or continuing to use) Mobile banking across potential and repeat customers. Based on a survey of 368 participants (177 for potential customers and 191 for repeat customers), this study explained the model using structural equation modeling (SEM). The results indicated that perceived relative advantage, ease of use, compatibility, competence and integrity significantly influence attitude, which in turn, lead to behavioural intention to adopt (or continue-to-use) mobile banking. Additionally, by

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using multi-group analysis with t-statistics, the study found that the antecedents of attitude toward Mobile banking differ between potential and repeat customers.

**Harma & Dubey (2009)**examined the resistance for the adoption of Mobile banking with regard to certain barriers like; usage, value, risk, tradition and image barrier using an internet survey (1540 responses). The results revealed that the lack of knowledge and understanding of the Mobile banking significantly contribute to the poor adoption of Mobile banking services. More so, older and less educated peoples were found to significantly resist to adopt to banking innovation services compared to other bank users.

**Zhenhua Liu, Qingfei Min and Shaobo Ji (2009)**studied the role of trust on the individual intention use of Mobile banking among the 438 respondents using Technology Acceptance Model. The study reported that perceived usefulness and trust jointly have a significant influence on the individual’s intention to use Mobile banking services.

**Chu & Yao-bin (2009)**investigated the impact of trust on online banking and the initial trust in Mobile banking with regard to issues such as structural assurance, compatibility and relative advantage of intention to use among 313 users of online banking services. The authors contended the importance of trust in online banking as important antecedent for positive perception Mobile banking services.

**Kumar Mayank, Suyog Deshpande & Ityam Vasal (2009)**proposed the use of mobile-enabled services to combat the problem of accessibility of micro-finance services. The authors described a method of extending the use of mobile phones to microfinance services to incorporate mobile phones in the current microfinance system. The authors asserted the need to evaluate the mobile services based on various objective and

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29 Kumar Mayank, Suyog Deshpande & Ityam Vasal: “System design to extend usage of mobile phones for microfinance services in India”, Publisher: USID 2009
subjective criteria so as to implement the most suitable model in the Indian scenario. The system model proposed, the authors contend that would ensure better accessibility as well as better security and ease of transaction without compromising the trust of user.

**Dewan & Dewan (2009)**[^30] identified the choice of banking channels among 500 young consumers in the 18-30 age group (mobile phone users) in one of the urban cities in Bangladesh. The study found that youth in urban cities consider mobile phone as the most preferred banking channel than using bank branch, ATM, Internet and others. More so, they use such services predominantly for checking the balance of amount in their accounts.

**Indrani Medhi, Aishwarya Ratan, and Kentaro Toyama (2009)**[^31] examined the factors responsible for the adoption and usage of existing Mobile banking services among low-literate and low-income individuals in developing countries like India (26), Kenya (11), Philippines (30) and South Africa (23) through the qualitative approach among ninety interviews. The study found that lack of awareness about the availability and features of Mobile banking services as significantly factors that result in the low adoption of Mobile banking services among bank customers. In India, about 22 out of the 26 interview responses reported that these customers have never heard of Mobile banking channels.

**Yu & Fang (2009)**[^32] assessed the post-adoption perceptions about Mobile banking services among 458 users in Taiwan using a twenty-three item measure on a five-point scale. The research identified six factors using explorative factor analysis (EFA) such as security service, interactivity, relative advantage, ease of use, interface creativity and customer satisfaction. Overall, the customers post-adoption index was about Mobile banking is 82.786, which indicated the satisfaction of customers on the six factors of Mobile banking services offered by those banks.


Yang A.S (2009) attempted to identify the reasons for resistance to use Mobile banking services among the university students in Taiwan using a systematic random sampling technique. The study concluded that the speed of transactions and special reductions in transaction services as motivational factors among the students for adoption of Mobile banking transactions. On the other hand, system configuration (security code) and fees charged by banks are some of the reasons that prevent students from taking up these services offered by the banks.

Olga Morawczynski and Mark Pickens (2009) contended the need for more studies and publicly available data about user, more importantly, low-income users of Mobile banking services in Kenya. The study drawing on the first ethnographic research on M-PESA, a success story on the mobile phone-based delivery of financial services, offered significant insights into how poor people used M-PESA, its impact on their lives, and some unexpected consequences.

Judith Mariscal (2009) studied the adoption of mobile phones and its impact on the social and economic development of the poor. The author asserted the implications and the emergence of Mobile banking/m-payments systems on the lives of the poor in developing economies. Given the dearth of studies on Mobile banking environment, the author contended that a large number of low income people have access to mobile phones, who are excluded from the formal financial markets. Mobile banking offers the opportunity to diminish this financial exclusion by offering access to credit and to savings which are key tools capable of transforming the livelihoods of the poor and the efficiency of the market. The author discussed the important role for regulators to play in enabling an appropriate environment for the increase in the mobile penetration as well as business models for Mobile banking. To the author, branchless banking systems can take advantage of increasingly ubiquitous real-time mobile communications networks to bring banking services into everyday lives of the people irrespective of their locality. However, there is a shortage of hard empirical evidence relating to them.

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34 Olga Morawczynski and Mark Pickens(2009); “Poor People Using Mobile Financial Services: Observations on Customer Usage and Impact from M-PESA”, cgap publishers

Nadim Jahangir & Noorjahan Begum (2008) conducted a cross-sectional study to identify the factors for adoption of e-banking among customers of private commercial banks. Factors such as perceived usefulness, perceived ease of use, security and privacy and customer attitude were found to be positively related to the adoption of e-banking among customers.

Ivatury & Mas (2008) observed the penetration and substantial growth in the Mobile banking transactions over the years, which is expected to increase in the future. The authors asserts that financial institutions, which have had difficulty in providing profitable services through traditional channels to poor clients, see Mobile banking services as a form of branchless banking.

Narendiran, Albert Rabara & Rajendran (2008) demonstrated the advantage of mobile penetration that enabled mobile operators to provide value added service such as secured mobile banking, mobile commerce and provide enhanced security for internet banking. The authors contend that Mobile banking as an attractive service offered by banks because of the convenience and ability to perform banking from anywhere any time. However, there were security concerns in the implementation, which include problems with GSM, network, SMS, GPRS protocols. The authors proposed an end-to-end security framework using PKI for Mobile banking is proposed. The performance and implications of the proposed model were discussed.

Tiwari & Buse (2007) observed that the customer interest and the willingness to pay vary for individual services in Germany. The authors highlighted that growth of Mobile banking can be traced back to technological and demographical developments that have influenced many aspects of the socio-cultural behaviour in today’s world. Mobile banking


presents an opportunity for banks to retain their existing customer, technology-savvy customer base by offering value-added, innovative services and to attract new customers from corresponding sections of the society. The customer survey provides evidence that such sections in the meanwhile include the affluent and financially relevant groups of the society in Germany. The authors highlighted that many banks in Germany have come to regard Mobile banking as a necessary tool for increasing the customer base and with self-reinforcing dynamism it is expected to gain currency in near-future.

Infogile Technologies (2007) observed that the mobile and wireless market as one of the fastest growing markets in the world, which has been growing at a rapid pace. With mobile technology, banks can offer a wide range of services to their customers such as doing funds transfer while traveling, receiving online updates of stock price or even performing stock trading while being stuck in traffic. Mobile devices, especially smartphones, are the most promising way to reach the masses and to create “stickiness” among current customers, due to their ability to provide services anytime, anywhere, with high rate of penetration and potential to grow.

Daghfous and Toufaily (2007) using quantitative method of survey studied the adoption of e-banking innovations (Phone banking, Mobile banking, ATM, TV banking, PC banking, Minitel, Extranet and Internet banking) by Lebanese banks with respect to its organizational, structural and strategic factors among information technology managers. The study revealed a low interdependence between adoption of e-banking and various types of banks. The authors concluded that the adoption of e-banking innovations considerably increases the performance of banks in terms of its market share, reduction of administrative costs and customer satisfaction.

Laukkanen (2007) qualitative research indicated that Mobile banking seems to be the capability for immediate actions and time-saving was a major factor for determining adoption of mobile fund transfer service.

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Laukkanen (2007) stated in his study of bank customers in Finland that Mobile banking channel helps customers to check their account balance and latest transactions immediately at any time, 24X7. The study concluded that based on the Mobile banking users’ response, five-inch display is quite suitable to adequately read the preferred financial information. However, customers who do not use Mobile banking reported the use of larger display size for convenience and ease of use to read financial information.

Laukkanen (2007) studied the online customers’ attitude preferences with regard to electronic distribution channels in the bill payment services. The findings indicated that educational level, profession, household income, long internet banking usage and usage frequency significantly determine the potential and success of Mobile banking services.

Lee, Mattila & Shim (2007) in their exploratory research identified the factors contributing to Mobile banking resistance in Korea and Finland using purposive sampling method among non-Mobile banking users. The study found that the lack of knowledge regarding the Mobile banking services is a significant deterrent for the non-adoption of Mobile banking system in Finland. In Korea, the inadequacy of the handset and the need to buy newer mobile phones are significant impediments for the non-adoption of Mobile banking system. Furthermore, inefficiency of the current e-banking services in both the countries and lack of proper infrastructure also deter bank customers from not taking up Mobile banking services. The study also highlighted the role played by mobile operators in the development and utilization of Mobile banking services among bank customers.

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Molina, Consuegra and Esteban (2007)\textsuperscript{46} examined the impact of relational benefits on customer satisfaction of retail banking in Spain. The study concluded that the confidence benefits (clear and reasonable offering of services, work well done, greater confidence and correct functioning) as the antecedents of customer satisfaction in the retail banking environment.

Baker, Al-Gahtani and Hubona (2007)\textsuperscript{47} studied the effects of gender, age and education on new technology implementation among knowledge workers in Saudi Arabia using the Theory of Planned Behaviour (TPB). The study found that the attitude towards technology, subjective norm and perceived behavioural significantly influence the use of technology. The moderating effect of gender might influence the adoption factor in the future. With increasing educational level, the influence of perceived behavioural control on intention to use technology is muted and the effect of age as a moderating demographic variable was found to be minimal.

Lee, Lee and Kim (2007)\textsuperscript{48} identified factors influencing the adoption of Mobile banking service among the users (306 respondents) through a web-based survey using Technology Acceptance Model. The authors concluded that consumers’ trust and perceived usefulness directly influence the adoption of mobile banking; however, perceived risk does not have any effect on the adoption of Mobile banking services.

Shereif Mahdi & Dawson (2007)\textsuperscript{49} used a mixed-methods study to explain the process of technological change in the Sudanese commercial banking sector involving the general and Information Technology (IT) managers of the banks, IT specialist, top/senior officials, and IT consultants. The study reported that IT managers have more IT Knowledge and skill, general managers have more managerial experience. Further, it is


\textsuperscript{49}Mohamed Osman Shereif Mahdi & Patrick Dawson (2007): “The introduction of information technology in the commercial banking sector of developing countries: voices from Sudan”, \textit{Information Technology & People, Vol. 20 No. 2, pp. 184-204}
stated that implementation of IT in Sudanese banks does not only provide for better banking services but also to comply with the directives of the Bank of Sudan. Further, the study demonstrated that the adoption of IT was driven down by the top management characterized with effective management decision making. However, the study reported that the implementation was not completed. Moreover, the study found that banking services are planned for inter on-line services, which has been considered as the highly preferred and credit card services as the least likely preferred banking services.

Laukkanen, Sinkkonen, Kivijarvi, and Laukkanen (2007)\textsuperscript{50} explored the reasons for resistance to adopt to Mobile banking services in Finland using an online survey among the users and non-users of mobile banking. The study found that the traditional barriers are no longer relevant. Usage, value, risk and image factors significant contribute to the resistance to adopt or use Mobile banking adoption among the respondents in the study area.

Mohammad Shirali-Shahreza\textsuperscript{1} & Hassan Shirali-Shahreza (2007)\textsuperscript{51} conducted a study in emerging economies like Iran found that Mobile banking is limited to fields such as SMS due to lack of infrastructure and because of high costs. The authors presented a method for developing banking services through mobile phone using the Bluetooth application. This method saves cost requirements and timely support in an optimal way. The implications of the method to both customers and the banks were discussed.

Tiwari, Bure & Harstatte (2006)\textsuperscript{52} explored the various avenues expanding online banking services using mobile based applications. The study reported that banks in India such as Indian bank, Bank of Punjab, HDFC, ICICI are providing the most dominating mobile-financial services to their customers.


Gautam Ivatury and Mark Pickens (2006)\textsuperscript{53} studied the view of Mobile banking among the 515 low-income individuals in South Africa (both users and non-users of Mobile banking services). The study found that the greater majority of the user participants were prepared to use of new technology for their financial transactions with the banks. However, a significant proportion of these respondents found it difficult to use their cell phone for their financial transaction because of confusion and difficulty. The study concluded that the providers of Mobile banking services should enhance the awareness of their service to the low-income customers so as to increase adoption and utilization of such services by the customers.

Chris Lin & Hsieh (2006)\textsuperscript{54} examined the relationships among technology readiness, perceived service quality, satisfaction and behavioural intentions toward self-service technologies by the customers in Taiwan. The study reported that those customers with more positive levels of attitude toward technology, ability to use technology and willingness to adopt technology are more likely to appreciate self-service technologies, resulting in higher perception of service quality and enhanced customer satisfaction.

Amin and Abdul Hamid (2006)\textsuperscript{55} examined the undergraduate students’ attitude and expectations on Mobile banking offered by Islamic banks in Malaysia. The study observed that the employed individuals significantly influence student’s intention to adopt Mobile banking services. Convenience of the device and cost effectiveness of Mobile banking transactions significantly influence adoption intentions. Moreover, the primary expectation of the students over Mobile banking lies in its effectiveness to cater to the needs of the customers.


\textsuperscript{55}Hanudin Amin,Mohamad Rizal Abdul Hamid,Harvey Tanakinjal & Suddin Lada (2006): “Undergraduate Attitudes and Expectation for Mobile Banking” Journal of Internet banking and Commerce, volume 11, No.3.
Rajnish Tiwari, Stephan Buse & Cornelius Herstatt (2006) conducted an empirical study to assess the customer acceptance for Mobile banking services and their willingness to pay for such services in Germany. The study observed that majority of the customers was not aware of such services or offer and only 12 per cent of the sampled customers actually used mobile financial services, predominantly male customers working in government offices. The study also found that ubiquity (anywhere feature) as the most important reason given by customers for adopting to Mobile banking services, followed by immediacy. Conversely, insecurity, costs incurred and inconvenience in using mobile phones were reported as reasons for the non adoption of Mobile banking services among non-users.

Rajnish Tiwari, Stephan Buse & Cornelius Herstatt (2006) in their empirical survey of customer acceptance revealed a major and growing interest in Mobile banking services. The degree of interest and the willingness to pay also vary for individual services and they therefore suggested design specific services taking the needs and wishes of relevant target groups into consideration. The authors advised banks to employ mobile channels with a clear business focus so that it can generate revenues by offering value-added, innovative mobile financial services while retaining and even extending their base of technology-savvy customers.

Laukkanen (2005) focused on comparing the consumer value creation in internet and Mobile banking among the experienced e-banking customers in Finland. Majority of the users used Mobile banking services for fund transfer. Users also have reported attributes such as the ability to use the service as and when required, time saving and efficient and convenient perceptions as significant value creation factors for Mobile banking services.


The author suggested the importance to stay focus on the customer needs and values by financial institutions, not only due to the changing environment but also because of changing customer behaviour.

**Tommi Laukkanen and Jari Lauronen (2005)**\(^5^9\) in their exploratory research using a qualitative in-depth interview method found that Mobile banking services are essential for controlling some of the financial related matters. The authors argued for the need to increase the understanding of customer-perceived value and value creation on the basis of attributes of mobile services and customer-perceived disadvantages of mobile phones in electronic banking context. Bill payment through mobile phone is perceived as too difficult and time-consuming as the device enables only a limited amount of information processing. Further, the whole bill may also not be visible on the small display, which is a significant constraint for the users.

**Wan, Luk and Chow (2005)**\(^6^0\) investigated the factors influencing the adoption behaviour of banking channels (branch banking, ATM, telephone banking, and internet banking) among the Hong Kong bank customers. This study reported that the level of adoption of telephone banking has been low compared to others. The study further examined the customers’ beliefs about four banking channels for convenience, informativeness, user friendliness and assurance through confirmative factor analysis. The study found that telephone banking was not highly adopted by all age groups but was used more frequently by customers in their middle or mature adulthood. Further, the study reported the significant effect of the occupational group on the adoption of banking channels except ATM. Adoption of telephone banking was higher in labourers, clerks, managers and professionals than the students. Self-employed, home duties and retired persons reported a moderate level of adoption of telephone banking services.


Joseph, Sekhon, Stone and Tinson (2005) explored the underlying areas of dissatisfaction associated with the banking experience among the customers in the UK. The study found that the perceptual performance of banking institutions among its customer has been not as high as expected. However, majority of them reported satisfaction with the overall electronic banking experience. The authors found that actors like, reliability and accurate banking services, customer service, personalized service and accurate records as significant predictors of customer satisfaction. Moreover, this study explained that the customers perceive that factors such as reliability and accurate banking services as part of the “Keep up the good work” quadrant.

Sylvie Laforet and Xiaoyan Li (2005) in their study reported the lack of awareness among the Chinese people as a major barriers for the poor adoption of Mobile banking services drawn from a the findings of a study among 180 customers using simple random sampling technique. The study found that none of the younger generation (18 – 24 Years) and students were not used to Mobile banking services; however, salaried employees predominantly use these services offered by banks, comparatively higher than the small business owners and senior managers.

Wen-Chen Hu, Chung-wei Lee & Weidong Kou (2005) suggested that mobile security and payment as central to m-commerce as it brings enormous benefits to consumers and merchants. For consumers, it means ease of use. For mobile operators, mobile payment presents a unique opportunity to consolidate their central role in the m-commerce value chain. The authors discussed that financial organizations view mobile payment and Mobile banking as a way of providing added convenience to their customers along with an opportunity to reduce their operating costs.

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Key Pousttchi Martin Schurig (2004) analyzed the customer needs and expectations from the mobile applications’ view and from the banking view in order to derive a defined set of requirements. The study defined a set of customer requirements to Mobile banking applications, the identification and assessment of four standard types of current Mobile banking applications and an explanation of major failure reasons along with opportunities for its improvement.

Suoranta (2003) examined the dimensions with regard to the adoption of Mobile banking services. The study found that age and education among the several demographic variables significantly influence the intention of users to adopt to Mobile banking. Factors such as relative advantage, compatibility, communication and trialability also play an important determining role in the adoption of Mobile banking.

Durkin, Howcroft, O’Donnel & McCartan-Quinn (2003) in their study among 2319 retail customers reported that customers give worthiness of m-services does not create any deterrent for the adoption of such services.

Karjaluoto and Koivumaki (2003) discussed the adoption of customers of the heterogeneous private bank customers from the traditional branch services to online banking in Finland using postal survey among the 1167 response. The study reported the effect of several variables such as gender, age group, marital status, education, household income and profession on the level of use of Mobile banking services (high more importance on remote banking as well as face-to-face contact. Further, the study pointed out dissatisfaction with regard to staff availability for customer care as a significant motivator for attaching one’s importance to remote communication among the customers.


65 Mary Suoranto (2003): “Adoption of Mobile Banking In Finland”, Doctoral Thesis Submitted to University of Jyväskyla.


**Amir Herzberg (2003)** discussed the growth of mobile commerce aided by increasingly popular ownership and use of mobile personal, programmable communication devices, including mobile phones and PDAs. The author explained that these devices are effective for authorizing and managing payment and banking transactions, offering security and convenience advantages compared to online payment via PCs. The author asserted that the availability of existing devices, modest requirements, inexpensive enhancements as the some of the key strengths for the adoption of such services. The use of secure and convenient mobile personal devices could revolutionize the payment, banking, and investment industries worldwide. The author concluded with the discussion on some of the challenges and opportunities involved in their use for making secure payments and authorizing banking transactions.

**Nina Kreyer, Key Pousttchi & Klaus Turowski (2003)** found that existence of standardized and widely-accepted mobile payment procedures as crucial for successful business-to-customer mobile commerce. The study indicated that the customers’ acceptance of mobile payment procedures mainly depended on cost, security, and convenience. The study categorized the payment procedures into strategic, participation and operational criteria, based on the morphological method. The authors proposed a payment scheme which allows three basic types of applications: merchants and customers can analyze and represent their preferences for mobile payment procedures in a structured way, (prospective) mobile payment service providers may analyze their market expectations and develop MP procedures according to these, and different market participants may use it as a basis for standardization.

**Karjaluoto (2002)** in his study among Finnish bank customers found that security and trust-worthiness of making payments have been considered as important for the adoption

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68 Amir Herzberg (2003); “Payments and Banking with Mobile Personal devices” Publisher: May 2003/Vol. 46, No. 5 Communications Of The Acm


of Mobile banking transaction among all the groups of the customers surveyed in the study area. Further, the study reported that old users give priority to security and speed of bill payment. With regard to other factors, commuting distance to a bank as a most important factor for non-users. However, old users did not place any importance to the distance of bank. The study concluded that the ease of use and price of the bill payment concerning at the time of mode of bill payment as important factors considered by all the customer groups.

**Muligan & Gordon (2002)** identified the current and potential role of information technology in supporting the relationship between customers and suppliers. The authors discussed the use of technology in providing opportunities to strengthen the existing relationship between customers and suppliers of financial transactions. The authors contended that the use of technology can improve customers service levels by providing new forms of service delivery, improving customer intimacy, responding more rapidly to customer needs, and affording customers the opportunity to helps themselves.

**2.3 CONCLUSION**

This chapter has presented a summary of existing studies available in the area of Mobile banking services across countries. Though numerous works were available for review, the researcher reviewed fifty nine papers and the papers are grouped into five categories, namely, Customer Adoption of Mobile banking services (25), Regulatory Framework of Mobile banking (3), Empirical study of Mobile banking (20), Mobile banking business model (4) and Mobile banking and Economic Development (7). But there is no detailed and systematic study that would capture the Mobile banking acceptance, usage pattern, satisfaction level and non-usage by customers in Mobile banking services in India. Hence the researcher has undertaken this research work to study the overall growth of Mobile banking services and assess the customers’ acceptance, usage pattern, non-usage, reasons for the non-usage and satisfaction of Mobile banking services offered by commercial banks in India.

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