This chapter deals with the review of literature related to the domain of the current study. The present research is multidisciplinary in nature and takes valuable inputs from the related fields which include e-commerce, m-commerce, banking and consumer behavior. In order to get the desired level of understanding and conceptual clarity of the related fields, the available literature on each of these domains was thoroughly explored as a part of secondary research. This review of literature further helped to identify the gaps in the studies related to the field of m-banking. Further, the different categories of literature are grouped as per the domains related to the current study.

2.1 Studies Related to M-banking Service

**Barnes and Corbitt (2003)** conducted a study on the concept and potential of m-banking. In this paper they have mentioned that m-banking is considered as the first commercial application of m-commerce. Further, it was highlighted that m-banking is a new field which includes the convergence of mobile technology and banking applications. In this study, it was proposed that data communication among mobile phones and PDAs provides great opportunities for the growth of m-banking services through SMS and WAP based operations. The study strongly promoted that the success of m-banking service is based on the banking environment, customer perception and working of existing banking channels.

**Mattila et al. (2003)** conducted a study on the factors affecting the adoption of mobile banking services. This study takes into account the responses of 1253 bank customers in Finland. Based on the findings of the survey, a model of m-banking adoption was developed including the different factors affecting adoption of the service. The results of this study revealed that complexity in usage, benefit of the service and compatibility with the users are found to be most important factors affecting m-banking adoption. Further in this study, it was proposed that m-banking is
a new service and should be given more research focus in the field of consumer behavior.

**Sheikh (2006)** in his study on the use of m-commerce by the customers today has revealed that m-banking provides special time and place advantage to its users as it could be accessed from anywhere and at any time. In the findings of the study, it was mentioned that consumers who are more willing to use mobile phone for communication services apart from the traditional calling are most likely to adopt m-commerce applications. It was further revealed that income is positively related with the use of m-commerce applications as people with higher income are more willing to adopt m-commerce services. Next, it was also mentioned that simplicity in operations will have great effect on the usage of services.

**Tiwari and Buse (2007)** have undertaken a study on the mobile commerce prospects a strategic analysis of the opportunities in banking sector. This research study was conducted in Germany and included 452 valid responses of the different banking customers. Findings of the study revealed that m-banking provides great opportunity for the banks to get extra income from the customers who are eager to accept new technology. It was proposed that in the era of rapid globalization, implementation of technology will help the banks to face the challenges of competition. It was also mentioned in the study that rapid adoption of the service will make m-banking a key application of m-commerce. In addition to this, the study proposed that in a similarity with e-banking and e-commerce, m-banking is going to have a far reaching on the future of m-commerce.

**Maurer (2008)** conducted a study on retail electronic payments systems for value transfers in the developing world. This research study was focused on analyzing the new systems of funds transfer using ICT applications. In the study it was mentioned that apart from the developed nations, electronic payments also have great scope among the developing world. ICT applications like m-banking have redefined the personal banking operations of different banks. Further, it was revealed that in the m-commerce literature there is shortage of studies related to the usage and socio-economic impact of m-banking service especially in case of developing countries. It was also mentioned that m-banking has a promising future in the
developing world with higher mobile phone usage and lower number of bank accounts. Banking environment among the developing countries also calls for more studies on m-banking involving consumer behavior.

**Donner and Tellez (2008)** conducted a study on m-banking and economic development in which they worked on linking its adoption, impact, and usage with the economic development. As a part of the data collection methodology, they interviewed the owners of 20 small business organizations from Bangalore which is considered as one of the big cities in India. Among the total number of organizations interviewed, 30% were from manufacturing, 40% were from retail and 30% were from services industry. Findings of the study revealed that there is great impact of m-payments on the societies in the developing world. M-banking has emerged as a new mode of payment and has special implications for the banks providing personal banking services. It enables the banks to transfer funds between the accounts of its own customers or to the customers of other banks at lower cost. In addition to this, it was also highlighted in the study that m-banking acts as a medium to connect more people with the banking system and helps to support the objective of financial inclusion. Further, it was proposed that m-banking provides unique advantage to the customers and has great scope specifically among the developing countries.

**Kim et al. (2009)** conducted a study on understanding the dynamics between initial trust and usage intentions of mobile banking service. This study takes into account the responses of 192 banking customers. In the findings, researchers have revealed that the respondents were having low level of trust in m-banking and were not very enthusiastic to use the service. However, they have found that there is a significant relationship between initial trust and perceived benefit of the m-banking service. It was further highlighted in the study that the perception about benefits of m-banking has great impact on the initial trust. The researchers suggested that different awareness programmes about m-banking service should be carried out by the service providers to minimize the perceived risk so that the customers could be made aware about the advantages of m-banking. In addition to it, this study proposed that the organizations engaged in providing m-banking service should do profiling of their customers based on the trust and confidence.
Laukkanen and Cruz (2010) have conducted a study on determining the factors contributing towards the non-adoption of mobile banking service. The data analysis in this study was based on 3228 valid responses of banking customers received from Finland and Portugal. In this study they worked on ascertaining the impact of different types of barriers in m-banking. These barriers included usage barrier, value barrier, risk barrier, tradition barrier and image barrier. Apart from these barriers, they also ascertained the impact of device, gender and previous experience on the m-banking usage. The results of the study highlighted that resistance to innovation was having the highest impact on non-usage of m-banking whereas ease of use and the benefits were having the most favorable impact on the usage of service. Apart from this, it was also mentioned in the study that the type of mobile device and previous usage experience also have a key impact on the non-usage of m-banking. In case of demographics, it was examined that gender of the customer has a significant impact on the usage of m-banking.

Gupta (2011) conducted a study on analyzing the role of information technology as an enabler in the financial inclusion. In this study, he focused on finding out the possible reasons for lower coverage and customer reach of different banks. Further in the study, he advocated that the gap in lower coverage and reach of the banks could filled by the proper implementation of ICT resources in the banking operations. He proposed that m-banking has a great scope in the delivery of banking services to the unbanked individuals. In his findings, it was revealed that m-banking has its starting point in the urban areas and the objective of achieving financial inclusion through m-banking is lagging behind in the rural background.

Khraim et al. (2011) conducted a study on factors affecting Jordanian consumers’ adoption of mobile banking services. In this study, a survey was carried out among the banking customers yielding 301 valid responses. The researchers have highlighted different factors which can affect the m-banking adoption in case of Jordanian consumers. These factors included self-efficacy, trail ability, compatibility, complexity, risk and comparative advantage. They proposed that banks must make efforts to improve their good will by evolving technology applications such as m-banking and cater to the changing banking requirements of the customers. They further highlighted that m-banking provides new banking channels to the banks and
will further help them to differentiate themselves from their competitors. Apart from this, it was suggested that m-banking could be used as a medium for attracting new customers.

Safeena et al. (2011) conducted a study at their college in Saudi Arabia on the consumer’s adoption of mobile commerce in the emerging economy by taking case of mobile banking. The data collection for this study was carried out through a survey of 52 respondents. In this study they had treated m-banking as the representative of m-commerce environment and used the famous technology acceptance model (TAM) to provide insights into the adoption behavior of customers. The results of the study revealed that the respondents were not very eager to use m-banking service. In addition to this, they also found that ease of use, awareness, usefulness, risks and subjective norms all had a positive effect on the m-banking usage which was observed to be a similarity with internet banking.

Yu (2012) conducted a study on the factors affecting individuals to adopt mobile banking evidence from the UTAUT model. This study takes into account the responses of 441 banking customers. In this study, the researcher has analyzed the role of two demographics i.e. gender and age as moderator variables between core determinants of UTAUT (unified theory of acceptance and use of technology) and the adoption of m-banking. In the findings, it was revealed that gender did not significantly moderated the impact of effort expectancy, social influence and perceived credibility on the behavioral intention which is not true in case of performance expectancy and perceived financial cost. In context of age, the researcher has found that adoption of m-banking service varies as per the age of the customers.

Chauhan (2012) carried out a study on customer perception towards mobile banking and examined the issue of adoption and challenges of the service in the Anand district of Gujarat state in India. In this study a survey was conducted in which 85 effective responses were received from the m-banking users. The results of the study revealed that m-banking service provides great benefits to customer such as no queues, time saving and quick transaction processing. It was also evident from the results of the study that m-banking reduces the hassles of the customers and provides them the ability to avail the banking facility at any time. The results of the study in
context of two demographic variables i.e. age and gender also revealed that there was no significant difference in m-banking usage among the variable gender and age.

Shukla and Bhatt (2012) carried out a study on understanding the adoption of mobile banking among consumers. The data analysis in this study was carried out based on 90 valid responses received from the banking customers. In the study, they worked on finding out the relationship between the demographic variables age, education, income and the m-banking usage of respondents. Apart from it, their study also focused on finding out the bottlenecks in the use of m-banking. The results of their study revealed that the use of m-banking is dependent upon the age of respondents as young age respondents were found to be more sophisticated users of m-banking than the older ones. In addition, the variables education and income were also found to be positively associated with m-banking usage. Apart from this, it was revealed that less awareness and the perceived complexity in service usage among the respondents were the main hindrances in m-banking adoption.

Aghdaie and Faghani (2012) carried out a study on mobile banking service quality and customer satisfaction using the famous SERVQUAL model. The sample size used in this study was 120 respondents from Iran. In this study, the researchers have selected the dimensions of SERVQUAL as independent variables and the customer satisfaction as the dependent variable. Their finding revealed that customer satisfaction is affected by the quality of each of the SERVQUAL dimensions in case of m-banking. Finally, this research study highlighted that improvement in the dimensions of service quality can help the banks to increase their customer retention.

Adholiya et al. (2012) conducted a study on the determinants of customer satisfaction for mobile banking services among public and private sector banks. The sample size used in this study was 100 m-banking users from the state of Rajasthan in India. This study was intended to find out the association between service quality, brand perception, flexibility, technological innovation, strategic endorsement and functional performance of m-banking service with the customer satisfaction. Findings of the study revealed that all these factors were positively associated with customer satisfaction. They further suggested that banks need to address the security issues and
think of service expansion based on the sophisticated technology based infrastructure and continuous customer support.

**Ariff et al. (2012)** conducted a study to find out relationship between customers’ perceived values, satisfaction and loyalty of mobile phone users. This study was carried out in Malaysia and the data analysis is based on 285 valid responses of mobile phone users. The findings of the study revealed that the most important factor affecting customer satisfaction in mobile phone services is customers’ perceived emotional value. Apart from this, social value was found to have the lowest impact on overall customer satisfaction but carried some importance only among the teenage customers. This study further proposed that an effort by the different stakeholders to increase the perceived value of mobile phone services will further affect their satisfaction and loyalty.

**Masrek et al. (2012)** in their study examined the relationship between mobile banking utilization, satisfaction and loyalty by taking case study of Malaysian consumers. The data analysis in this study is carried out based on 312 effective responses received from m-banking customers based on questionnaire. The findings of their study revealed that m-banking has positive relationship with satisfaction. However, this is not true in case of loyalty. In addition, they have also found that satisfaction is an important predictor of customer loyalty. This study provides important implications for banking professionals and the researchers. The findings of this study provide necessary support for the implementation of technology in the information system background and further help to understand the important issue of customer satisfaction in case of m-banking.

**Parvin (2013)** conducted a study on the prediction of future of mobile banking operation in Bangladesh. She carried out a survey of 60 m-banking customers of 12 selected banks. In the findings of the study, it was revealed that overall the m-banking users are satisfied and the variable education has significant effect on the service usage. In addition, it was also found that employees of the banks were the main source of awareness about the service. Apart from it, the results of the survey revealed that there is significant effect of the problems faced and the requirements to start new service on the level of satisfaction of m-banking customers. Further, it was observed
in the study that most of m-banking users were highly educated. The study also proposed that m-banking service has good future in Bangladesh due to larger customer satisfaction. However, it was suggested that banks need to add more types of m-banking services in its portfolio.

Ramdhony and Munien (2013) conducted a study on investigation of mobile banking adoption and usage by taking case of Mauritius. This study takes into consideration the responses of 169 respondents. In their study, it was found that m-banking has great future in Mauritius. However, they have highlighted that banks need to clarify the doubts in the mind of customers related to security of m-banking transactions. Apart from this, their study also focused on finding the correlation between m-banking usage and different demographics of the customers which included salary (income), education, gender and age. The results of the study revealed that variables income, age and gender had no association with m-banking usage in Mauritius. However, education level and internet banking usage were related with the use of m-banking.

Aboelmaged and Gebba (2013) conducted a study on the mobile banking adoption in which they examined the technology acceptance model (TAM) and theory of planned behavior (TPB). In this study, the survey of 119 respondents generated significant findings. The findings revealed that both attitude and subjective norms have significant effect on m-banking adoption. However contrary to this, it was also examined that behavioral control and usefulness of the service does not affect adoption. Apart from it, the researchers have highlighted that attitude and subjective norms were observed to be the important predictor of m-banking adoption.

Wadhe and Ghodke (2013) conducted a research study to understand the awareness and perception of consumers towards mobile banking. For this purpose, they conducted a survey of 70 respondents in the city of Pune in India and found that most of the consumers were aware about m-banking service. However, they were unaware about the different types of services further offered in m-banking. Their study revealed that m-banking is mostly used by young consumers between 18 to 25 years of age. In this study, it was also highlighted that usefulness, interest and ease of use have a significant impact on the usage of m-banking.
Saoji and Goel (2013) conducted a study to understand the customer response and satisfaction of mobile banking in India. In this study, they discussed about the different types of m-banking services provided by various banks. Apart from this, they also highlighted the present position of m-banking service in terms of numbers of transactions and the regulations made by Reserve Bank of India to promote the service. In the findings of this study, it was revealed that m-banking customers were satisfied from the services of banks due to ease of use, strict security norms, cost effective and economical nature of the service.

Cheng et al. (2013) conducted a study on investigating the impact of the quality of service on the intentions to use mobile banking. In their study, it was found that all the dimensions of service quality which included tangibility, reliability, assurance, and empathy were having positive effect on the customer satisfaction. The study also highlighted that quality of service in case of m-banking will have positive effect on the intentions to use the service. The outcome of the study revealed that m-banking service was mostly acceptable to the customers of banks who were having great concern for safety and availability of the systems. In this study, the researchers have suggested that banks must react quickly to their customer’s request which will further help in improving the image of the service.

Jepleting et al. (2013) carried out a study focused on ascertaining the effects of mobile banking on customer satisfaction by taking case of Equity bank of Eldoret town in Kenya. In this study, the target population was 2130, which was comprised of 2000 customers of bank, 120 employees of the bank and 10 agents involved in providing m-banking services. Findings of this study highlighted that m-banking was rated as effective service by majority of customers and employees. Customers and agents found m-banking to be effective based on network availability. Similarly employees also found the service to be effective as it helps to reduce long queues in the banks. In this study, it was suggested that the banks should fulfill their advertised promises if any made to the customers.

Lin and Shih (2013) presented a study on the service quality of mobile banking systems. In this study, they highlighted that traditional service quality scale i.e. SERVQUAL is unable to appropriately represent the service quality requirements
of the electronic environment and there is need to use an e-service quality scale for assessing the service quality in case of m-banking. Further in the study they have mentioned that E-S-QUAL and its subscale E-RecS-QUAL were appropriate to assess the service quality in case of m-banking. They highlighted that the nature of m-banking service is also similar with websites and involves the assessment of electronic core service quality and electronic recovery service quality which are represented by the E-S-QUAL and E-RecS-QUAL scales. Their study proposed that both these scales should be used to measure e-service quality in case of m-banking service.

Singh (2014) conducted an empirical study on customer perception of mobile banking in the Delhi region in India. In this study, customer perception including adoption and impact of m-banking service was examined. In order to collect the relevant data, a survey of 200 customers of different banks in Delhi was carried out. The findings of the study have shown that efficiency, security/privacy, reliability and responsiveness were the most important dimensions among m-banking customers. In addition to this, the study also pointed that security issues carry huge importance among the Indian customers and have a great impact on their m-banking usage. In this study, it was also observed that demographics like age and education have a significant effect on the customer perception of m-banking service.

Kahandawa and Wijayayake (2014) in their study examined the impact of mobile banking services on the customer satisfaction by taking case of Sri Lankan State Commercial Bank. This study was carried out using questionnaires which were distributed among the m-banking customers of the State Commercial Bank. The data analysis in this study was carried out on the basis of 64 questionnaires received from m-banking customers. It was evident from the findings of study that ease of use, perception of risk, lifestyle, current needs and usefulness of m-banking service had a significant association with the customer satisfaction. In this study, they suggested that banks need to focus on these issues in order to improve their m-banking operations and should also go for mass customization for their services.

Asfour and Haddad (2014) conducted a study on the impact of mobile banking on enhancing customers’ e-satisfaction on commercial banks in Jordan. This
was a survey based research in which data was collected from 360 respondents. This study proposed the different dimensions of m-banking which included security, privacy, flexibility, ease of navigation, efficiency, accessibility and reliability. The results of this study had shown that all these dimensions significantly affect the satisfaction of customers. This shows the importance of these dimensions in electronic customer satisfaction. Further, it was highlighted in their study that among all the dimensions, privacy is the most important dimension for m-banking customers and thus safety concerns should be given utmost weightage by the m-banking service providers.

Shaikh and Karjaluoto (2015) in their study carried out the literature review of various studies related to mobile banking adoption. In this study, the review of the literature includes 33 journals related to the domain of information system, business administration and marketing involving different databases such as IEEE, Inderscience, Science Direct, Taylor and Francis, ACM and Wiley. The results of this study present the review of different studies focused on adoption of m-banking service. In the findings, it was suggested that the focus of most of the studies related to the domain of m-banking was to increase the adoption of the service among different types of people living in the countries having different economic conditions. This study further revealed that in comparison to the developed countries, most of the adoption studies were carried out in the developing nations.

Malviya (2015) conducted a study on exploring mobile banking service quality dimensions for public and private sector banks in the Indore district of Madhya Pradesh in India. This study was based on a sample size of 200 m-banking customers of various public and private sector banks. Further, the researcher has highlighted that the studies related to e-service quality are mostly concerned with internet banking whereas m-banking lacks attention on this issue. Findings of the study revealed that the dimensions efficiency, convenience, assurance, security, responsiveness and reliability are the important predictors of m-banking service quality. The researcher further recommended that banks should use these dimensions while ascertaining the service quality of m-banking service. In addition to this, it was highlighted that these dimensions could also be used by different stakeholders in m-banking to measure satisfaction and loyalty.
2.2 Studies Related to Other Banking Services

Raghuwanshi (2012) conducted a study on the challenges and opportunities of retail banking in India. In this study, he presented the different reasons for the growth of retail banking or personal banking in India. The researcher identified increased competition, economic growth, innovation in banking and impact of technology as few of the reasons for rapid growth of personal banking services. He further emphasized that personal banking includes the services focused on large number of individuals so it requires utmost care and systematic dealing with the customers during their service encounters with the banks. He further added that personal banking services have huge potential in the Indian market and presents greater opportunity for the banks in future.

Revathy (2012) carried out a study about the drivers and dooms in Indian retail banking industry. This study highlighted the recent trends in retail banking industry and included a survey of 120 customers of selected banks. The findings of the study revealed that most of the customers were aware about the different retail banking services except tele-banking, home banking and institution financing. The research study also proposed that customer satisfaction is mostly dependent upon the routine encounters of the individual customers with the banks and sincere efforts should be made by the banks to face the challenges posed by retail banking.

Ismail and Osman (2012) conducted a study on the factors influencing the adoption of e-banking in Sudan. This study was mainly conducted to find out the perceptions of retail banking clients. In this study, data analysis was conducted on 269 responses received from different customers of banks in Sudan. The results have highlighted that majority of the personal banking customers were using one or the other e-banking services. Findings of this study have shown relationship between income, type of account and internet proficiency. However, on the contrary some of the results depicted no relationship of e-banking with the variables education, gender, marital status and occupation. They further proposed that there is need to adopt new types of e-banking services such credit cards, e-mail/SMS alerts and online bill payment by the banks. Further, they argued that this could only be possible with the
support of continuous supply of electricity and maintenance of different information and communication technology (ICT) resources.

Jayakumar and Angbalagan (2012) have carried out a study on innovations and challenges in banking industries in India. Their study revealed that banks need to quickly adapt to the changes in the environment and should go for restructuring of their operations. They argued that with the increased competition in the banking industry due to liberalization, globalization and privatization, the banks must work to satisfy the aspirations of their customers and understand the changing market conditions. These steps taken by the banks will enable them to prosper in the long run and will equip them to face the competition in banking environment with improved efficiency and effectiveness.

Vivekanandan and Jayasena (2012) in their study examined the facilities offered by the banks and expectations of IT savvy banking customers in Sri Lanka. This study takes into account the responses of 404 banking customers in the Colombo district. The results of this study have depicted that the users with more technical knowhow expect higher quality services from the banks. It was also revealed that the personal banking customers like services to be up to the mark before proceeding to new electronic mode of banking. The findings of this study also pointed that there is a big gap between expected and delivered service in case of electronic banking. This study further highlighted the category of banking customers which were suitable for operating e-banking services. It was proposed that future improvements must be carried out in case of different service quality dimensions.

Sasikala (2013) in her study examined the impact of demographics on service quality, customer satisfaction and loyalty in case of Indian banking in Vellore district. In this study, she has carried out a survey of 200 personal banking customers. The findings of this study have shown that there is a direct relationship between customer satisfaction and service quality. The banks need to take care of all the dimensions of service quality given in SERVQUAL scale. Further, the outcome of this study reveals that banks should provide special services depending upon the requirements of the customers. Apart from this, the factors like poor facilities, lack of communication
were considered as the main problem areas in the delivery of quality services to personal banking customers.

**Fozia (2013)** conducted a comparative study of customer perception towards e-banking services provided by selected private and public sector bank in India. This study takes into account the responses of 196 customers of different banks in Aligarh city. The results of this study reveal that age and occupation are observed to be the most important factors in the study of customer perception. The findings of this study depict that the perception and usage of e-banking differs as per the age of the customers. It was further found in this study that the perception towards e-banking varies as per the customers’ occupation. In addition, it was proposed by the researcher that banks should keep in view this difference in perception of customers depending upon their age and occupation. Next, they should work on providing e-banking services as per the perception of their customers.

**Agrawal and Jain (2013)** conducted a study on challenges of technological advancement in the banking sector in India. This study was focused on the technological innovations in the banking industry. In this study they highlighted that in retail banking different technological implementations such as credit/debit cards, point of sale terminals, RTGS, internet banking, telebanking, m-banking are the different ways to meet the customer’s expectations. The findings of their study revealed that technological up gradation of the banks enables them to face the challenges of the competition and utilize the potential of retail banking in India. They further advised that banks must utilize the potential of new service like m-banking for meeting the growing demand of customers. In addition, they proposed that government and the reserve bank should also support the new improvements in technology.

**Zhang (2013)** conducted a study on measuring service quality of online banking in China. The data collected in this study was primarily carried out through a survey and the results were interpreted from 173 effective responses. This survey was conducted in the Bozhou City in China. In this study, E-S-QUAL and E-RecS-QUAL scales were modified by the researchers for increasing their suitability to assess the service quality of online banking in China. In the results of this study, security was
found to be most important dimension among Chinese customers followed by the convenience and ease of use dimensions. The researcher further proposed that in addition to E-S-QUAL and E-RecS-QUAL scales, his modified scale could also be utilized to assess e-service quality among the online banking customers in future.

**Paschaloudis and Tsourela (2014)** carried out a study using E-S-QUAL and E-RecS-QUAL scales to measure internet service quality of e-banking websites in Greece. The data collection in this study was conducted using questionnaire method. After collecting the data, 487 valid responses received from the customers of different banks in Greece were further analyzed in context of this study. In the findings, it was observed that the dimension contact was the most important dimension followed by responsiveness. The results of this study revealed there is slow growth of electronic services in Greece and with the increase in the number of e-banking users, the customers will have more ease in the usage of electronic services.

**Mohiuddin (2014)** in his study examined the recent trend and development of e-banking in Bangladesh. In this study, he discussed about the basics of e-banking which included its conceptual framework composed of telebanking, internet banking and m-banking. The findings of this study have shown that there is great scope for internet banking in Bangladesh due to wider use of computers and information technology resources. He suggested that banks and telecommunications organizations must work together to keep track of the consumers problems and provide them the ability to carry out error free transactions. He further proposed that banks should get leverage of the future prospects of e-banking. Safety and privacy features should be given special attention by the banks.

**Sabi (2014)** carried out a study on the research trends in the diffusion of internet banking in developing countries. This study was intended to ascertain the research gap in terms of the studies involving internet banking in developing countries. The researcher carried out the analysis of 188 journal articles to get the desired level of understanding about adoption, diffusion and implementation of internet banking in developing countries. Findings of this study revealed that highest research on internet banking has been carried out in Asia, and the regions like South America and Caribbean have comparatively received less attention. It was also found
that in case of African continent that highest research on internet banking was carried out in Nigeria whereas in some African countries it was yet to start. His study highlighted that there is big research gap related to studies on internet banking in Africa which must be addressed. He further argued that the findings presented in this study can guide the researchers to reduce the research gap in the domain of internet banking.

Rao (2014) conducted a study on the role of retail banking in Indian economy. In this research paper, he discussed about the recent trends in retail banking in India and the world. In the findings, he has highlighted that there is bright future of retail banking in India. In addition, he further pointed out that banks need to do lot of innovations in retail banking operations which should be complemented with the introduction of technology. The researcher also suggested that customization of services, internet banking, m-banking helps the banks to increase the level of their services and help them to gain edge over their competitors. He proposed that nowadays banks should keep more focus on retail banking as it offers them the venue for tremendous growth in future.

2.3 Studies Related to M-Commerce

Chan et al. (2002) conducted a study on the usability of mobile commerce across multiple form factors. In this study, they have provided certain guidelines which must be followed while designing different wireless applications for m-commerce. Further, they proposed that in order to enable the users to take full advantage of mobile commerce applications, the usability and interface of these applications should be given proper attention. In this study, they have mentioned that the proper analysis of the user’s operations is required in case of mobile services environment. This will enable the developers and solution providers to deal with the challenges posed by usability requirements which are found to be crucial factors in the acceptance of mobile commerce applications. This study has great implications for customer relationship management where forms, user tasks and presentation of the content needs to be mutually aligned.
Liang and Wei (2004) conducted a study on the introduction to the special issue related to mobile commerce applications. In the study they discussed different types of m-commerce applications and proposed a fit-viability framework for evaluations of the success or failure of m-commerce in future. They highlighted that mobile commerce has a great future ahead and for making it successful in future, the organizational viability needs of the m-commerce applications should be given special attention. Apart from this, making a fit between the work to be accomplished and technology to be used is also very important. They further highlighted that the framework proposed by them will assist in attaining the objective of creating a proper fit between the task to be performed and the technology applied thereby keeping the organizational interests into consideration.

Mahatanankoon et al. (2005) carried out a study on exploring consumer perception of mobile applications in case of consumer-based m-commerce. This study involved a survey of 251 respondents and results of the study revealed that m-commerce applications were mostly used by consumers during emergency and searching of information. These applications were related to content delivery such as accessing emails, weather forecast and receiving news. It was also observed in this study that the applications involving transactions did not received high ratings from the respondents. These applications included transfer of money, shopping from mobile and electronic payments. The concern for privacy and security of the transactions were highlighted as the possible reason for the lower attention in case of transaction based services. Further, in this study they proposed that customized, location based and value added mobile applications will help the organizations to fully utilize the potential of m-commerce in future.

Hu et al. (2005) conducted a study on internet-enabled mobile handheld devices for mobile commerce. This research study is focused on presenting the role of handheld devices in the success of mobile commerce. Apart from this, the research study also explained the different m-commerce applications in the field of education, entertainment, healthcare, commerce, traffic, inventory, travel and ticketing. They further argued that hand held devices have great importance in m-commerce as they enable the users to appropriately access the different applications. These hand held devices include the components such as micro browsers, mobile central processing
unit, mobile operating system, input/output devices, memory and batteries. In addition to this, they also highlighted that the connectivity of these devices with desktops, laptops and other electronic devices is also key element for the success of m-commerce applications. The use of infra-red and blue tooth technology among these devices also contributes towards effective utilization of m-commerce services. Finally, this study also proposed that the use of internet enabled hand held devices have great implications on the future growth of m-commerce industry.

Parasuraman et al. (2005) conducted a study on E-S-QUAL - a multiple-item scale for assessing electronic service quality. This scale was developed by keeping in mind the different nature of e-service quality which is found distinct from the traditional quality of service. In their study, they proposed two scales for assessing e-service quality which included E-S-QUAL and its subscale E-RecS-QUAL. These scales were proposed as the representatives of electronic core service quality which is related with the quality of service provided at the time of actual service delivery and electronic recovery service quality which is concerned with recovery service provided after actual service usage. These scales were considered as a refinement over E-SERVQUAL scale which had seven dimensions. These seven dimensions were further categorized by the researchers in this study into four dimensions of E-S-QUAL and three dimensions of E-RecS-QUAL scale. The four E-S-QUAL dimensions included efficiency, system availability, fulfillment and privacy whereas the three E-RecS-QUAL dimensions included responsiveness, compensation and contact. In this study, the researchers presented 22 items corresponding to these seven dimensions and proposed that these items could be effectively used to assess the e-service quality in future.

Tiwari et al. (2006) carried out a study on examining the transition of electronic to mobile commerce which provide opportunities through technology convergence for business services. This research study was focused on analysis of the existing regulatory framework of the m-commerce along with the conceptual models which provide support for proper implementation of this new application of e-commerce. Their study treated m-commerce as an output of recent advancements in telecommunications and information technology. They proposed that m-commerce provides ample opportunities for different business organizations to provide various
kinds of value added services to their customers. In addition, their study also highlighted that anywhere anytime access of m-banking provides great challenges and new alternatives to business organizations. Further they added that among the different services of m-commerce, m-banking being a specialized service is considered branch dependent and is provided by the banks and financial institutions.

**Bigne et al. (2007)** carried out an exploratory study of Spanish mobile users on the key drivers of mobile commerce adoption. This study included a survey of 606 mobile users in Spain. Findings of the study revealed that past experience, association with mobile, age and the attitude towards m-commerce applications affect the m-commerce behavior. It was also mentioned in this study that among all the predictors of m-commerce usage, age is the most important determinant whereas the other demographics like gender, education and income does not affect its use. Overall this study was intended to highlight the important contributors towards the acceptance of m-commerce and provides necessary guidelines to different organizations regarding delivery of services. This includes the creation of marketing strategies involving variables such as age, past experience, gender and mobile usage.

**Ngai and Gunasekaran (2007)** in their study carried out a review of mobile commerce research and applications. This research study was based in the review of 149 research studies published between years 2000 to 2003. Their findings revealed that m-commerce has great future ahead but the organizations must take into account the importance of user interface which is getting more attention day by day due to availability of more portable devices. Their study further highlighted that financial applications such as m-banking have received great attention of the researchers as compared to the other m-commerce applications. In addition to this, they have also promoted the need to do research for ascertaining the impact of culture and other societal issues on the usage of m-commerce services.

**Chang et al. (2009)** conducted a study on role of smart phone for mobile commerce. This paper included the review of different types of smart phones provided by various manufacturers. In this study, it was proposed that different m-commerce applications should be built as per the compatibility with these mobile devices. This study further highlighted the important features of m-commerce which
contribute towards the adoption of its applications. These features included privacy, security, reliability, convenience and ease of use. It was further proposed in this study that the organizations need to adhere to strict security norms for making m-commerce a success. In addition to this, they need to convince the people about the safety of its applications.

Hameed et al. (2010) conducted an exploratory study and review on mobile commerce and applications. In their research study, they discussed the importance of different m-commerce business models and how they can help in optimal delivery of its applications such as mobile advertising, mobile ticketing, mobile shopping, mobile stock trading and m-banking. They also proposed that the proper understanding of the business models by the different m-commerce service providers will enable them to provide error free and reliable services to their customers. This will further help them to take full advantage of the ubiquitous nature of m-commerce application in future as ubiquity in operations is considered as the biggest advantage of using m-commerce services.

Jahanshahi et al. (2011) examined the issue and challenges in mobile commerce beyond electronic commerce. In this study, they have provided the introduction of m-commerce to the different stakeholders involved in the delivery of m-commerce services. Their study revealed that m-commerce has a great future ahead and has provided new ways of service delivery for the business organizations. The findings highlighted that there is a mismatch between customers’ expectations and the technology usage which further needs some special attention. In addition to this, they proposed that the organizations need to improve the user interface of their m-commerce applications so that they can take full advantage of the recent trends in the growth of m-commerce.

Wu (2011) carried out a study on the issue of customer loyalty explained by electronic recovery service quality. This was a survey based study in which the online survey questionnaire was filled by 121 respondents. This study specially takes into the account the important issue of electronic recovery service quality and works to identify its impact on the perceived value and loyalty which are considered as the important indicators of customer satisfaction. In this study, it was found that
electronic service quality and electronic recovery service quality had no direct effect on the customer satisfaction. However, there is mediation effect of perceived value and customer satisfaction in the association between electronic service quality, electronic recovery service quality and customer loyalty. The results of this study also revealed that electronic recovery service quality directly affects e-service quality and customer loyalty but affects customer satisfaction through indirect mediation effect.

**Nemati et al. (2012)** conducted a study focused on analyzing e-service quality in case of service based website using E-SERVQUAL scale. This study was carried out to evaluate the web service which was offered in Iranian University and the data was collected from 304 respondents based on the questionnaire filled by them. Findings of the study revealed that there was high efficiency and online service quality in the service website. Apart from these, the different service quality dimensions like reliability, responsiveness, assurance and privacy were not found up to the mark. The researchers further proposed that organizations should improve their quality of service by focusing on the design and website service quality which will help in improving the customer satisfaction and loyalty.

**Awan et al. (2012)** carried out a comparative study on online service quality perception of two regional economies which were China and Kingdom of Saudi Arabia. This study includes the comparison of e-service quality of the websites of different banks in the two regions and utilized the famous scales E-S-QUAL and E-RecS-QUAL for measuring the e-service quality. In this study, questionnaire was used to collect data from 107 customers of the Kingdom of Saudi Arabia and 115 customers from China. The results of this study revealed that there was difference in the importance of E-S-QUAL dimensions among both the regions. In case of China, there was considerable effect of fulfillment and compensation dimensions on the perceived value and loyalty of m-banking customers. In context of the Kingdom of Saudi Arabia, customers were more concerned with the efficiency and responsiveness dimensions of online banking services. This difference in the priorities of dimensions among both the markets reflected the cultural differences among the customers of two regions. Finally, it was observed in this study that standard of living and cultural differences affect the perception of the people towards e-service quality of the websites of different banks.
Nysveen et al. (2015) carried out a review of mobile services research to identify the research gaps and suggestions for future research on mobile apps. In the course of the study, they carried out review of the literature of the articles related to mobile gaming, mobile ring tones, mobile insurance services, mobile ticketing, mobile advertising, mobile shopping, mobile internet, mobile brokerage and m-banking services. Further, it was revealed by them that ubiquity in the services is considered as the biggest benefit of using mobile services. The results of this study proposed that there is dearth of studies related with mobile services usage as most of the studies are concerned with the adoption of mobile services.