CHAPTER 2

REVIEW OF LITERATURE

2.1 Introduction:

Review of the related literature is one of the first steps in research process. It consists of summary of findings of research carried out in the past on same directly and indirectly related topics. This review provides insight to the researchers regarding what is already known and what remains to be tested regarding the topic of research. It guides the researcher to avoid duplication and provides useful suggestion for further research of given topic.

Therefore, the aim of this chapter is to review the literature on mobile phone related work. In other words, in this chapter, the studies which have been undertaken by various researchers in India and abroad in relation to mobile phone and mobile banking have been reviewed. The Chapter is divided as under,

2.1 Introduction

2.2 Studies related to mobile phones

2.3 Studies related to mobile banking

2.4. Gap in earlier studies on mobile phones and mobile banking.

2.2 Studies related to mobile phones:

Sinhas and Wagh in their article “Analyzing Growth of Cellular Telecom Sector and Understanding Consumer’s preferences and choices on the use of cell phone”, published in Indian journal of Marketing. September 2008 ¹ has studies the growth and performance of cellular telecom sector. The study measures consumer
choices, preferences regarding mobile services and mobile usage. The study was based on primary data, collected from businessmen, employees, students, agriculturalists and others. The study area is Janupur, Eastern Uttar Pradesh district and sample size was 100 respondents and survey collected through questionnaire. They study concludes that majority of the consumers are prepaid consumers and prefer lower tariff followed by better service and considered 30 paisa as ideal call rate. Further study found that majority of the consumers are satisfied with service provided by mobile service provider. Further analysis was made that there us lack of coordination between service providers, handset manufactures and customers. Ultimately, the coordination between service providers and mobile phone manufactures play an important role in satisfying needs of mobile phone users. The study provides various thoughts and open up vistas for the mobile service providers to gain momentum and technological breakthrough in such a way so that this should be able to reach to the common man of the country.

Srivastava, Bhangde, Bhatt, Gori and Marfatia in their article “Role of Competition in Growing Market: Telecom Sector” published in Indian Journal of marketing. September 2006 has discussed the Theory of product life cycle to study the impact of competition on developing markets in India and also to understand the importance of value addition and pricing strategies. They pointed out that price plays an importance role in growing or emerging mobile market and to survive in the industry, it needs to provide customers extra value added features, high quality services at competitive price. The study selected Hutch, Airtel, and RIM mobile product based on primary data. The data was collected through questionnaires on the basis of survey. The sample was 100 respondents from central, western and South Mumbai.
Banumathy, and Kalaivani, in their article “Customers’ Attitude Towards Cellphone Services in Communication Systemm” published in Indian Journal of Marketing. March, 2006 has studied the customer’ attitude towards cell phone services in communication system on the basis of survey method. The study is based on primary data, collected by way of survey from 300 respondents, consists of 189 from prepaid and 111 from posted schemes. This study attempt to know the type of calls attended period and nature of usage, effect on landline connection, use of SMS, reasons for choosing a cell phone and level of satisfaction of services. The study concludes that the overall consumers’ attitude towards cell phone services is that they are satisfied with the existing services but they will still want more services to be provided.

Desai Ashok, in his article “Revolution in India’s Telecommunications Industry” published in Economic and Political weekly. February 17,2007 has studied telecommunication industry and its history. He studied further ownership pattern and financing of private communication pattern. This includes the growth and emergence of digital electronic technologies in the case of fix line and mobile technology. He stated that a village telephone is not of much use unless it unable villagers to talk to friends and relatives. In addition to it he further stated what is required to commitment developing the mobile systems providing and connecting the backward area including village to forward area. In short a significant break in the trend has occurred in the mobile technology in the recent year.

The size and the distance of communication industry decreased to the great extent to – 2G. at present 3G revolution is taking place and therefore mobile system has increased its network from urban to rural area and from richer to poor. It is evident from cover story presented by Business India in November 2008 which shows
that more than 300 million subscribers already exist and it may increase to 550 million by 2010 which indicate very fast development in the mobile business. There is lot of difficulties in using and handling the mobile phones and the cover story of Business India brought out this feature clearly. The uses of handset and talk time price is higher. It is not benefiting to a common man. This is also pointed out by the article.

Two studies were conducted by Karjaluotoet. Karvonen, Kesti, Koivumaki, Manninen, Pakola, Ristola, Salo, in their article “Factor Affecting Consumer’ Choice on Mobile Phone: Two studies from Finland” published in Journal of Euro Marketing, in 2005 on factors affecting consumer choice of mobile phones. Mobile phones markets are one of the most turbulent market environments today due to increased competition and change. In fact, it is of growing concern to look at customer buying decision process and cast light on the factors that finally determine consumer choices between different mobile phone brands. On this basis, this research study deals with consumers choice criteria in mobile phonemarkets by studying factors that influence intension to acquire new phones on one hand and factors that influence on mobile phone change on the other. With the use of a series of focus interviews (study 1) 79 graduate students followed by a survey (study 2) of 196 respondents. It was found that although the choice of a mobile phone is subjective choice situation. There are some general factors that seem to guide the choices. The two studies show that while technical problems are the basic reason to change mobile phone amongst students, price, brand, interface and properties are the most influential factors affecting the actual choice between brands. Further the study found strong evidence that although mobile phones are developing at a rapid pace closer to personal digital assistants, many consumers tend to be unaware of the properties and services the new models in the market contain.
Satya, in his article “Cost Reduction top priority in telecom sector” published in Facts for you, January 2008 has highlighted growth of Telecommunication industry and make aware total development in the field of telecommunication. The revenue has increased along with net profit from the mobile industry to a large extent. It is also pointed out by this study more than 87% of village have already been covered by 5.3 lakh village public telephone and FDI attracted to a large extent. However there are lot of problems and measuring to them is also complex. In such a situation studying mobile technology and its aspect is an important experience and that was done by Mr. Satya Sharma and Singla in their article “Telecom Equipment Industry: Challenges and prospects” published in Economic & political weekly, January 3, 2009 has highlighted the major challenges faced by India’s telecom equipment manufacturing sector, which lags behind telecom services. They found that only 35% of the total demand for telecom equipment in the country is met by domestic production. This is not favorable to long-term sustained growth of the telecom sector. The country is also far behind in R & D spending when compared to other leading countries. Farther they have analyzed that India needs to see an increase in R&D investment, industry-academia government partnership, better quality doctoral education and incentives to entrepreneurs for start-ups in telecom equipment manufacturing.

Mobile services consist of two components, (a) the phone or the handset, and (b) the services or the ability to make phone calls. Hence, the pricing of mobile services involves the pricing of the handset and the price of the phone calls. A segment level analysis of pricing patterns of cellular phones and phone calls in US was undertaken by Jain, Muller Eitan, Naufel in their joint article “Pricing Patterns of Cellular Phones and Phone calls: A Segment- Level Analysis” published in
Management Science / Vol.45, No. 2, February 1999. The main contribution of their study is that they developed an analytical model to examine cellular phones and phone call pricing based on demand side characteristics. It was the expectations of US Federal communication commission (FCC) that granting license to two firms would induce competition in the pricing of cellular phone services, and therefore in the price of both the handset and the phone calls would decline over time. An attempt has been made to find out that the competitive market conditions can result in declining prices for the handset but not for the phone calls, depending on production costs of the handset.

Bhatt, in his article “A study of mobile Phone Usage Among the Post Graduate Students” released in Indian Journal of Marketing, April 2008 has studied mobile phone usage, duration of use, necessity, the spending on mobile phones, influencing factor for purchasing the mobile phone, awareness of medical side effects of the mobile phone usage amongst the post graduate student on the basis of primary data; which was collected at Sardar Patel University from 700 post graduate students. The results indicate that the usage and satisfaction level of mobile phone users differ from company to company.

Determination for customer satisfaction and dissatisfaction in model handsets using kano model, was studies by Mishra and Mahajan, Cheatna, in their article “Determination of potential for Customer Satisfaction and Dissatisfaction in Mobile Handsets Using Kano Model” published in Indian Journal of Marketing, November, 2008. Mishra and Mahajan. Kano method is a concept engineering tool that was developed to help design engineers better understand what customers want and don’t want. They examined the dynamic consumer behaviour and their changing preferences by segregating changing trends in different market sectors. The study is
based on primary data. In the present area of immense competition and changing consumer preferences, it becomes eminent for the organizations to gain competitive advantage over the other firms to become a market leader. This can be only achieved by continuous innovation in the product by perfectly understanding the customer requirements which could lead to higher customer satisfaction.

Julian in her article “Access Pricing Under Completion: An Application To Cellular Networks” published in The Journal of Industrial Economics, September 2002 “Access Pricing under Competition: An application to Cellular Networks” analyzed the pricing problem in which upstream firms compete for customers and access to these customers is required by downstream markets\textsuperscript{11}. Using fixed-to-cellular as an example, a model is presented which shows that the determination of cellular termination charges is quite different to standard access pricing problems.

Selwyn, Neil in their article, “Schooling the Mobile Generation : the Future for schools in the Mobile-networked society” released in British Journal of Sociology of Education, Vol.24 No.2, 2003 has studied a detailed consideration of the theoretical and practical implications of mobile technologies such as phones and handheld computers on school and schooling by contrasting the ‘fixed’ nature of schools against ‘mobile technologies’ freeing up of the key symbolic forms of power of information and communication\textsuperscript{12}. He further pointed out that changes in the ,mobile technology are prompting at faster rate this will radically change students, and nature of school and schooling.

Seth, Momaya, Gupta, in their article “ Managing the Customer Perceived Service Quality for Cellular Mobile Telephony: An Empirical Investigation released in “Vikalpa, Volume 33, No.1, January-March 2008 has discussed Service Quality,
Cellular Mobile Services, Exploratory Factor Analysis, Confirmatory Factor Analysis and Competitiveness in the Telecom Sector\textsuperscript{13}. The Study indicates that among the various services quality dimension, ‘responsiveness’, is the best predictor, followed by reliability, customer perceived network quality, assurance, convenience, empathy, and tangibles which implies that cellular mobile service providers should invest in empowering the contact employees and providing them with adequate resources so that they can take prompt actions to customer queries.

Market Analysis and Consumer Research Organization has presented a report on, “A study of Mobile Phone Usage among the Teenager and Youth in Mumbai”\textsuperscript{14}. They have attempted to study the attitude of teenager of towards cellular phones and enumerate the pattern and arrive peculiarities gender wise\textsuperscript{14}. Further they have examined the way young people relate to the functionality of mobile phones as well as assess observable phenomena. It was analyzed that majority of respondents perceive cell phone as the technology that offers convenience and makes their life easier.

Srivastava and Bhatnagar in their article “Turnaround @ Motorola India – Mobile Devices Business through the HR Lever” published in Vikalpa, Volume 33, No., January – March 2008 the study assessed turnaround: Motorola India – Mobile device business through the HR lever\textsuperscript{15}. It is a comprehensive and intensive case study. SWOT analysis of Motorola India was highlighted. The study shows how company overcomes from failure to success by using various strategies. The study is on behaviors and preference of consumer. A thorough review of literature revealed that most of the studies reported on service quality focused on the service delivery aspects, ignoring the role of technical quality. In this context, a study of Seth et.al discussed above is worth noting which developed a valid and reliable instrument to measure
customer perceived service quality incorporating both service delivery as well as technical quality aspects. On the basis of 225 sample size who are regular users of cellular mobile service the study concludes that responsiveness is the best predictor, followed by reliability, customer perceived network, quality, assurance conveniences, empathy and tangibles.

Xuanming, in his article “Intertemporal Pricing with Strategic Customer Behavior” published in Management Science, Vol. 53, No. 5, May 2007 has studied international pricing with strategic customer behavior and shed light on how the composition of the customer population affects optional revenue consumer surplus and social welfare. He developed a model of dynamic pricing with endogenous intertemporal demand. In the model, there is a monopolist who sells a finite inventory over a finite time horizon. Wireless number portability (WNP) is telecommunication regulatory policy that requires cellular phone service providers to allow customers who switch service subscription to retain their original phone numbers. The right to retain the number lowers the switching cost for a customer. It means the purpose of the policy is to induce more completion and facilitate the growth of new or small service providers.

Gaur and Young-Hoon Park, in their article “Asymmetric Consumer Learning and Inventory Competition” published in Management Science, Vol. 53, No. 2, February 2007 developed a model of consumer learning and choice behavior in response to uncertain service in the marketplace under the model, they characterize the steady-state distribution of demand for retailers given that each retailer holds a constant in-stock service level. They have highlighted that asymmetry in consumer learning has a significant impact on the optimal service levels, market shares, and profit of the retailers. When retailers have different costs, it also determines the extent
of competitive advantages enjoyed by the lower-cost retailer in their article. “Asymmetric Consumer learning and Inventory Competition”.

A full mobile telephone history was traced out by Farley from 1940s to 2005 in his article “Mobile Telephone History” published in Telektronikk, April 3, 2005, this study described how mobile telephones for decades a near dormant technology, became the dynamic and perhaps most important communication tool of our lives. He first examined mobile telephony’s early and bulky beginnings, commercial mobile telephony began in 1946, the cellular radio concept was published in 1974. But since 1995 mobiles have become low cost, rich in features and used worldwide.

Mengze, Jeongwen and Duk in their article “Price Competition with Reduced Consumer Switching Costs: The Case of “Wireless Number Portability” in the cellular phone industry” released in Management science, Vol. 52. No.1, January 2006, has studied that wireless number portability drives market price downward as expected but with a surprising twists-rather than helping smaller firms around, the policy may accelerate the process of market concentration. They find out that the main contributing factor to this particularly is the discriminating pricing scheme prevalent in the industry- that is a service provider charging a lower per minute fee for the calls initiated and received within the same network for the calls connected across two networks. The study area is Hong Kong. They also examined the implications of the reduced switching costs due to wireless number portability on consumers’ service valuation and firms profits.

Tripathi and Masood in their article “Effectiveness of Mobile Advertising: The India scenario” released in Vikalpa, Volume 33. No. 4, October-December 2008 has attempted to critically analyze the effectiveness of mobile advertising in its
current format (as prevalent in India). ‘Effectiveness’ for the purpose of this study has been concretized in terms if impact of mobile advertising on the purchase decision of a consumer, and that there might be other significant factors like firm’s marketing efforts (marketing mix), a consumers’ socio-cultural environment (family, informal sources, non commercial sources, social class, culture and sub-culture), and an individual’s psychological fields (motivation, perception, learning, personality and attitudes) that affects his purchase decision. The study also found that internet advertising has been the principal source of media investment growth in the Western nation since 2001 as spending in traditional media has leveled off.

Abraham (2007) studied the effect that mobile phones had on the fishing industry in India. Although telecommunications were considered a luxury in India, there were about 156 million mobile phone subscribers by 2007. Abraham notes that the teledensity of phones was about eleven telephone lines per 100 people, and that this low ratio suggests ample room for growth in telecommunications in the nation. After conducting a survey of Indian fisherman, he found that 80 percent of the respondents thought mobile phones useful. He concluded that because fisherman could take mobile phones with them to sea, they could more easily access market information, including selling prices and demand. Fishermen could then decide how much fish to catch, which reduced the amount of the catch that was dumped or used as fertilizer. Additionally, the fisherman could better communicate at sea, enabling them to catch more fish if a large shoal appeared in neighboring waters. The increased availability of information reduced the risks and uncertainty of the volatile fish market. Mobile phones thus reduced search costs, reduced waste and improved quality of life, as they allowed fishermen to communicate with their families and
those on shore about bad weather forecasts like storms and other problems like engine failure.

Sinha in his article “shopping Orientation in the Evolving market” published in Vikapla, Vol 8, no.2, April-june 03, has attempted to study shopping orientation of India shoppers based on the orientation, shoppers have been classified into two segments: fun shoppers and work shoppers. The two segments are found to be different in terms of their demographic and behavioral profile. In the light of findings, the paper draws implications for store format, pricing, and merchandising and suggests that, in order to be successful; the retailers need to experiment with a format that attracts both types of shoppers.²²

Sinha Siddharth in his article “India’s response to the changing international telecommunication Environment” released in Vikalpa, Vol. 24, No.1, January-march 1999 has discussed the implications of various changes in the technological environment²³, mostly the technological revolution of “converged networks” brought by the development of internet for India and further suggests that VSNL should be given complete autonomy, subject to regulation by Telecom Regulatory Authority of India (TRAI), for determining the technology and tariffs for international telecommunication as well as negotiating settlement rates with foreign carriers and interconnections charges with Department of Telecommunication (DoT) in his article “India’s response to the changing International Telecommunication Environment”

Sinha, Banarjee and Uriyal a in their article “Deciding where to buy: store choice Behaviour of Indian shoppers” Vol.27, no.2 April-June 2002²⁴, has attempted to understand store choice behavior of shoppers. The primary motivation behind the
study was to identify major drivers behind choice of stores for various shopping needs as exhibited by typical Indian consumers.

Saxena, in his article “Financing of Indian telecom in a competitive environment” published in Vikalpa, Vol.22, No.3, July-September 1997, discusses the various instruments for financing the Indian Telecom sector and suggests a mix of equity participation and debt for further growth.\(^{25}\)

Chandra and Basant in their article “Linking Telecom Technologies: Complementarities, Capabilities, & Policies,” published in Vikalpa, Vol.22, No.3, July-September 2007 has preliminarily explored and attempted to developed a methodology for assessing the technological capabilities and needs of the telecommunication sector in India.\(^{26}\) It makes a case for strategic policy interventions to build adequate domestic capabilities in this crucial sector with significant externalities. The author develop a model for mapping technological capabilities through the concept of a technology supply chain and establish the role of complementary assets (like manufacturing within and outside the sector) in developing and appropriate technologies. They argue that policy initiatives need to be based on these considerations. A brief review of Asian experience also supports this point of view.

Sinha in his article “The Risk of Financing telecom Projects” released in Vikalpa, Vol.22, No.3 July-September 1997 reviews the emerging competitive structure of the Indian Telecom Sector, identifies the constraints within which the private sector is expecting to operate, and discuss issues related in to interconnection cost and quantity.\(^{27}\) It also looks at the regulation of tariffs in the context of across-subsidies in the existing tariff structure and identifies area for further work.
Manikutty in his article “Telecom Services in Urban and corporate Segments: A Consumer Perspective” published in Vikalpa, Vol.22, No.3, July-September 1997 has identified issues regarding estimation of demand for telephone connections and services based on a sample of respondents – both owner and non-owner of telephones- drawn from two cities of Gujarat as well as three corporate houses of Ahmedabad. Further implications are drawn for the Government including the role of Telecom Regulatory Authority of India (TRAI).

Vital in his article “Government initiatives, Regulations, and Financing of the Telecommunications Sector” published in Vikalpa Vol.22, No.1, January-March 1997 analyzed that technology, political will, judicial activism and market dynamics are the four significant factor that will help in the country’s leap forward strategy to catch up with global telecom services in terms of density and quality.

Kumar and Shesh in this article, “A Study of strategic Decision Making in the Indian industry” published in Vikalpa, Vol.19, No.4, October- December 1994 attempted to study 144 strategic decisions from 94 business organizations in the Indian industry with a view to understand the strategic decision- making process. The decisions are analyzed to structure the processes of strategy making and a model of strategic decision making process developed. It can be observed that strategic decision – making process is organizationally oriented with prominent information seeking characteristics.

Kaul Subhashini highlighted three key dimensions that influence the way in which consumers look at a retail store; shopping environment, Socio-cultural context and individual roles, motivations and behavior. These dimensions take into account the differences between shoppers in terms of their individual motivations, and also try
to model the variations caused in shoppers due to cultural influences. One key theme of this paper is the variation caused in the perceived hedonic value of shoppers. Kaul provides a theoretical framework and a robust agenda will keep researchers and retailers alike address this need.

Bharadwaj, Thirunarayana and Rajan, in their article “Attitudes towards Marketing Practices, Consumerism and Government Regulations: An Exploratory Survey of Consumers in India” released Vikalpa, Vol. 16, No. 1, January – March 1991, has focused on consumer attitudes towards marketing practices, consumerism and government regulation in a developing country-India. Further the result of this study indicate a high level of consumer skepticism with the operating philosophy of business, dissatisfaction with prevailing market practices, and support for the consumerism movement. The article on Consumers Satisfaction analyzed the satisfaction level of consumers encompassing quality of technical service, quality and operational aspects of gadgets, and social, psychological costs due to unsolicited promotional calls/SMSs etc. The analysis in this study throws light on the consumption behavior of the mobile phone users in Delhi and covers the aspects like usage pattern of the mobile phone services, assessment of the level of satisfaction, preference for various attributes and functionalities of gadgets etc.

Mishra Sangeeta, Sharma Prabhat and Sethi Pratil, analysed the present trend in the mobile service industry using price theory of Microeconomics. Game theory has been used to analysed the most rational choices for the competing firms in the industry which coupled with the present trends can be used to developed a forecast for the future.
The Royal Society for the Prevention of Accidents Mobile Phones and Driving has stated in the paper presented on Prevention of Accidents Mobile Phones and Driving A Literature Review August 1997’ that, the numbers of accidents which have been recorded (through action in the courts) where mobile communications equipment was identified as a cause. The Society has also recognised, by implication, that there will also have been a number of incidents involving personal injury where mobile communications equipment was involved but not identified. In the light of all these data, RoSPA has developed the following comments also: 1. This study has considered all the identified and available data concerning ‘in-vehicle distractions’. 2. It has focussed on those that are directly relevant to drivers using mobile communications equipment - primarily mobile phones.

The article on Analysis of Current Mobile Marketing Applications, Selected Best Practices in Business & Economics has fundamentally attempts to investigate current mobile marketing and advertising market, to examine current mobile marketing applications and to analyze three selected Best Practices and the future development of mobile marketing. The study consists of five main sections. First section consists of two parts, namely Introduction and Problem Statement. Introduction part covers a brief presentation about the subject of the study and the research objectives. And Problem Statement part discusses the stimulating factors to apply this research. The next section, which is Background Information, discusses the structural frame and the distinctive aspects of Mobile Marketing, the factors influencing consumer attitude towards mobile marketing, as well as measurement fundamentals of mobile marketing campaigns. This is followed by an Analysis of Current Mobile Marketing Applications including three selected Best Practices. Subsequently, Future Development of Mobile Marketing section explores the
The study anticipates the direction in which Mobile Marketing progresses and how the mobile technologies shape the development. Further, Key Success Factors of Mobile Marketing are investigated in this section. Finally, the fifth section concludes with a discussion about key findings of the study. Limitations of the Research and Recommendations for Further Research are provided to highlight the study.

In the research paper written by Donner reviews roughly 200 recent studies of mobile (cellular) phone use in the developing world, and identifies major concentrations of research. It categorizes studies along two dimensions. One dimension distinguishes studies of the determinants of mobile adoption from those that assess the impacts of mobile use, and from those focused on the interrelationships between mobile technologies and users. A secondary dimension identifies a sub-set of studies with a strong economic development perspective. The discussion considers the implications of the resulting review and typology for future research.

Mobile devices, particularly cell phones, are now at a crossroads. The first official mobile phone debuted in 1946 (Kumar & Thomas, 2006), and three generations of mobile phones later, they have become a staple of modern society in the developed world. The story of the cell phone in the developing world, however, is more complicated. A number of studies have examined the role that mobile phones play in the developing world.

Waverman, Meschi and Fuss (2005) note that “mobile phones substitute for fixed lines in poor countries,” and that “mobile telephony has a positive and significant impact on economic growth.” The researchers found that a ten percent increase in the mobile penetration levels of developing countries increased the growth rate by 0.6 percent.
In an earlier study by Roeller and Waverman (2001), fixed line telecommunications raised growth in output among OECD nations by one-third. A ten percent increase in the telecommunications penetration rate (both mobile and fixed-line telecommunications) was associated with a 1.5 percent increase in the growth rate. The adoption of mobile phones enabled the spread of information without the costly installation of physical phone lines.

Christopher P. Beshouri and Jon Gravråk has shown a new focus on bringing financial services to the unbanked—those without easy access to traditional banking channels—represents a strategic shift for mobile operators. The very small deposits and loans held by poorer customers make them unprofitable for banks that use traditional delivery models. But mobile devices reduce the cost to serve customers by 50 to 70 percent, making it possible to offer financial services to a vast population once considered unprofitable.

Using panel data from household and community surveys in Uganda, Muto and Yamano estimate the determinants of mobile phone network coverage, household possession of mobile phones, and banana and maize market participation. According to the study, the increase in information flow reduces the marketing costs of crops, including transportation costs, and reduces the amount of wasted produce caused by spoilage. The study, however, is limited in its consideration of producers, rather than traders and consumers.

In addition, a study by Aker and Mbiti (2010) details the channels through which the adoption and use of mobile phones in sub-Saharan Africa has affected economic growth and development. For instance, in Ghana, cell phones are used to keep in touch with relatives, as well as learn about corn and tomato prices. In Niger,
cell phones are used to learn about job opportunities. Cell phones and text messages also remind users to take prescribed medications on time, and even report violent conflicts. Aker and Mbiti suggest that the mobile device is more than just a simple communication tool; it is an agent of change that can transform lives. The mobile phone, because of its low cost relative to landline telecommunications and infrastructure, is more easily adopted by the sub-Saharan population.

In fact, the number of mobile phone subscriptions in Africa jumped from 16 million in 2000 to 376 million in 2008 (International Telecommunications Union, 2009). The adoption of the cell phone has been important in improving agricultural labor market efficiency and increasing producer and consumer welfare. Moreover, mobile phones reduce information asymmetry by allowing better access to and use of information, by reducing search costs, and by improving coordination among agents. Cell phones aided firms in managing their supply chains and streamlining production processes by improving communication between firm and supplier.

Mobile phones can create more jobs by increasing the demand for mobile-related services. Klonner and Nolen (2008), for example, found that the introduction of mobile coverage in South Africa was correlated with a 15 percent increase in employment. Using panel data from annual labor force surveys in South Africa and data from a mobile network provider, Klonner and Nolen construct a fixed effects model to measure the effect of mobile network coverage on labor market outcomes. In addition to finding a positive and significant relationship between mobile coverage and employment, the study also concluded that employment among young men shifts away from agriculture as a result of the introduction of mobile phones. Employment among women, especially those without children, increased as well. Mobile phone technologies facilitate the development of many mobile services that
may enhance market efficiency. One way in which mobile devices enhance development is through mobile banking, which, in turn, creates business and entrepreneurship opportunities.

Ivatury and Pickens (2006) discuss the impact of mobile banking in South Africa, finding that m-banking increases the availability of money, credit, and other financial services to poor people. Because banking can be done electronically, people no longer need to devote time and money to traveling to distant bank branches. Mobile banking trims transaction fees that ATMs typically charge. With mobile banking, individuals can make payments, transfer money, and buy prepaid electricity and mobile airtime. They can also make balance inquiries and deposit and withdraw cash. (Jack & Suri, 2009).

Other studies in information technology and telecommunications similarly suggest the importance of mobile phones and communication entities, such as landlines, information kiosks, the internet, and computers, in reducing asymmetric information in developing countries. In Madhya Pradesh, India, a system called e-coupal was implemented in October 2000 (Goyal, 2010).

As part of this plan, internet kiosks were established in villages to enable farmers to access soybean prices. According to Goyal’s study, there was an immediate and significant increase in the average market price for 13 soybeans due to the introduction of kiosks. In fact, the kiosks increased the monthly market price of soybeans by one to three percentage points. The dispersion of soybean prices across markets also decreased. Non-statistical studies have reported the various ways cell phones contribute to development. In Vietnam, cell phones are used to look for new business opportunities. They are used for a mobile banking system, and many users
find the service convenient because they can keep a record of the transactions (Foster, 2007)\textsuperscript{48}.

In Leone, though rural areas still lack coverage, mobile phones have replaced the landlines destroyed during civil war (Sesay, 2004)\textsuperscript{49}. They are now used to coordinate business transactions as well as communicate with relatives.

Furthermore, cell phones have generated additional business on the micro level. Entrepreneurs in developing countries such as Africa purchase multiple mobile phones, purchase airtime in bulk, and then sell calls to anyone passing through a village center (Hesse, 2007)\textsuperscript{50}. Still others establish kiosks to transmit money without mobile banking. For example, in Uganda, customers buy mobile minutes on a prepaid card to transfer to a distant recipient. Kiosk owners send the minutes to another kiosk owner by reading the activation code aloud over the mobile phone. The other kiosk owner will then convert the minutes into money after subtracting a commission, and deliver the funds to the distant recipient. In this manner, mobile phones enable those without bank accounts to receive money, and also stimulate other types of business activity. However, it should be noted that telecommunications by themselves are not sufficient to achieve development. Other variables such as a measure of democracy, political freedom, civil liberties, and literacy should also essential to economic development and should be included in the analysis (Andonova, 2006)\textsuperscript{51}.

Pratap have studied of the mobile phone users in Mumbai and concluded that mobile users may soon have a $45 (Rs.2000) handset with MP3 music player and a megapixel camera and evaluated that Quall communications. The CDMA technology pioneer is set to change the paradigm of entry level mobile which is now restricted to voice of text messaging\textsuperscript{52}.
Sharma has stated that the mobile industry is looking to expand its broadband subscribes base in the country with differentiated service. The mobile phone companies branding strategy is built around the fact that it also sells voice services - which tends to offer one of the lower priced legal music download services in the world.

Sharma opine that the mobile phone companies are looking very aggressively to expand their mobile phone business in the country given the fact that the company i.e. AirTel Broadband and Telephone services have added 2.5 lakh subscriber, which is about 31 percent of the total broadband subscribers in the country despite being present in just five states it being a success strong for as going forward to expand the base further.

Shivakumar has stated that the reason why fundamental consumers difference exist between India and other countries. He states that for a youth a cell phone is a huge a cell phone is a huge style icon and also for the Indian masses. 62 percent of Indian buy a cell phone because of its looks. That is something that is not true anywhere else in the world. It's as huge a style statement as your watch, pen, cufflinks or bag. Hence, the brand matter quite a lot.

Keller also cites that power of advertising in a comprehensive study of advertising effectiveness with reference to sales. An analysis of the effects of advertising on sales using Nielseis single - source database of 142 packaged goods brands from 1991 to 1992 revealed that around half of the time, advertising worked. Specifically, 70 percent of the advertising campaign in the sample boosted sales immediately although the effect was only strong in 30 percent of the cases. Forty six percent of campaigns appeared to yield a long term sales boost. Additional analysis
revealed other interesting study findings that increased sales could come from a single advertisement and advertising was more likely to increase both sales and profit than "money-off" sales promotions which almost always lost money.

Loudon and Dell Bitta while pointing towards the underlying roots of consumerism in United States also refers to antagonism towards brand awareness which equips through advertising. Consumerism is a social movement of citizens and government to enhance the rights and powers of buyers in relation to sellers. Large segments of the society are very skeptical of the usefulness and truthfulness of advertising information. In addition it is criticized for its intrusiveness and clutter, irritation factor stereotyped role portrayals, and promotion of unrealistic or unsupportable expectations.

Bauer and Greyser too responded to the criticism leveled against branding and advertising that it has brought about the revolution of rising expectations and made people seek instant gratification in material desires. They believed for advertising, to be effective, needs to reflect the attitudes of its intended audience. It is true that advertising is the chief means of communicating (and reinforcing) to people the range of reasons for which they might want to acquire materials objects. It is probable that as long as these reasons are ones which the culture recognizes that a given object can indeed be viewed as a symbol of status, it is unlikely that branding and advertising can or will be prevented from appealing to such reasons. If society regards as undesirable these materialistic values, than they must look beyond advertising for change.

Anderson defines social marketing as the adaptation of commercial marketing techniques for mobile brands and thus creating awareness and increasing preferences
status to the analysis, planning, execution and evaluation of program designed to influence the voluntary behaviour in order to improve their personal welfare and that of the society to which they are a part\textsuperscript{58}.

Kotler, Roberto and Lee defined social marketing as social marketing is the use of marketing principles and techniques to influence a target audience to voluntarily accept, modify or abandon a behaviour for the benefit of individuals, groups or society as a whole\textsuperscript{59}.

Kumar, Zahn has stated that, In recent times, a number of handheld mobile communications devices have taken prominence with a significant impact on global business operations\textsuperscript{60}. It is fascinating to learn the history of mobile communications, including the types of devices available and the growth of these technologies. The deliverables for determining if the customers are satisfied are provided in examples of successful implementation of mobile communications in businesses. In addition, it is observed in certain industries, handheld mobile communications have led to closer partnerships between a company and its customers and suppliers all over the world.

Tsang, Shu-Chun Ho, Liang has noted the rapid proliferation of mobile phones and other mobile devices has created a new channel for marketing\textsuperscript{61}. The use of Short Messaging Service to access customers through their handheld devices is gaining popularity, making the mobile phone the ultimate medium for one-to-one marketing. The present research investigates consumer attitudes toward mobile advertising and the relationship between attitude and behavior. An instrument for measuring attitudes toward mobile advertising is developed. The results of a survey indicate that (1) consumers generally have negative attitudes toward mobile advertising unless they have specifically consented to it, and (2) there is a direct relationship between
consumer attitudes and consumer behavior. Thus it is not a good idea to send SMS advertisements to potential customers without prior permission.

Gebauer and Shaw based on the concept of task/technology fit, a research framework and exploratory case study are presented that assess success factors and impacts of mobile business applications. Preliminary empirical evidence for the applicability of the framework was obtained for a mobile electronic procurement system implemented at a Fortune 100 company. For different user groups, the relationships between the characteristics of technology and tasks, usage, and organizational impacts were analyzed. The results indicate a need for simple but highly functional mobile applications that complement existing information systems. The study provides a basis for further research to improve the design and management of business applications based on emerging technologies.

Faulkner, Culwi said that SMS or text messaging is an area of growth in the communications field. The studies described below consisted of a questionnaire and a diary study. The questionnaire was designed to examine texting activities in 565 users of the mobile phone. The diary study was carried out by 24 subjects over a period of 2 weeks. The findings suggest that text messaging is being used by a wide range of people for all kinds of activities and that for some people it is the preferred means of communication. These studies should prove interesting for those examining the use and impact of SMS.

Haghirian, Sangyo, Tanuskova, studied in his article the that, Mobile marketing offers great opportunities for businesses. Marketing activities supported by mobile devices allow companies to directly communicate with their consumers without time or location barriers. Possibilities for marketers are numerous, but many
aspects of mobile marketing still need further investigation. Especially, the topic of mobile advertising (m-advertising) is of major interest. M-advertising addresses consumers with individualized advertising messages via mobile devices. The underlying paper discusses the relevance of m-advertising and investigates how perceived advertising value of mobile marketing can be increased. The analysis is based on a study among consumers. All together a quota sample of 815 mobile phone users was interviewed. The results indicate that the message content is of greatest relevance for the perceived advertising value, while a high frequency of message exposure has a negative impact on it.

Turnbull, Leek & Ying The consumer confusion phenomenon is associated with highly turbulent industries, which are characterized by rapid, technological change and evolving competition. These factors impede consumers' understanding of such markets and consequently effect their decision making process. This research focuses on the effect of confusion on information search behaviour which is part of the decision making process in the mobile phone market. Understanding search behaviour is of great importance to marketers, especially in designing marketing strategy and tactics.

Dalian Univ. of Technol., However, the rhetoric has far exceeded the reality so far. While academics and practitioners have presented many views about the lack of rapid growth of mobile commerce, we submit that the anticipated mobile commerce take-off hinges on the emergence of a few killer apps. After reviewing the recent history of technologies that have dramatically changed our way of life and work, we propose a set of criteria for identifying and evaluating killer apps. From this vantage point, we argue that mobile payment and banking are the most likely candidates for the killer apps that could bring the expectation of a world of ubiquitous mobile
commerce to fruition. Challenges and opportunities associated with this argument are discussed.

Kolko in his paper discusses the need for studying mobile phone use within the context of a society, with consideration of the cultural, political, and economic factors that influence phone use. Such contextual study is especially valuable in a culture that sharply differs from the industrial, predominantly Western perspective in which mobile phones and applications are developed. This paper presents a case study of mobile phone use in Uzbekistan, a Central Asian republic with a unique socio-political environment that is experiencing growing mobile phone use. A review of literature related to mobile phone use in developing, non-Western countries are presented. Some results of interviews about perceptions and use of mobile phones in Tashkent are discussed.

Bai, Chou, Yen, Lin stated in their paper that, as mobile telephones begin to incorporate web browser functionality, consumers are poised to take advantage of "virtual" storefronts. These web-enabled mobile devices allow m-commerce to be conducted anytime and anywhere. Mobile commerce offers a platform for unprecedented penetration of the internet. This paper identifies the differences between e-commerce and m-commerce, the key attributes in developing m-commerce, the driving and impeding forces of m-commerce, and current penetration and future development in m-commerce market.

Chen, Nath has noted in his paper that, Many predict that mobile business (m-business) will revolutionize modern corporations as e-commerce did in the last decade. However, many unresolved technical, application, and global issues relevant to m-business are preventing companies from adopting m-business as a prudent
business model. Furthermore, little academic research in this area has been attempted to provide practitioners with guidance to more effective utilisation of wireless technologies. To partially fill this void, this paper presents a framework for m-business applications that is designed to give managers a systematic approach to discovering m-business opportunities in their organizations.

### 2.3 Studies related to Mobile Banking:

Layla and Bojei in their research paper on Customer’s Perceived Value to Use Mobile Banking Services stated that, perceived value is a subjective concept that differs among bank customers. Although a number of factors have been suggested as important to understand mobile banking usage, very little attention has been given in literature to exactly what constitutes the value of mobile banking system. The aim of this paper is to examine factors affecting the value held by bank customers toward the use of mobile banking services. This study may enable banks to develop a marketing strategic plan based on perceived value from the customer's point of view. This study is based on primary data source. Kiran has focused on the current trends and expected future of mobile banking. On the other hand online banking services provide cost saving opportunities for banks and value added for customers this is stated by Laukkanen Tommi, (2007).

Hsiu-Fen focused on rapid advances in mobile technologies and devices have made mobile banking increasingly important in mobile commerce and financial services. Using innovation diffusion theory and knowledge-based trust literature, this
study develops 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 behavioral 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 uses a structural equation modeling approach to investigate the research model. The results indicate that perceived relative advantage, ease of use, compatibility, competence and integrity significantly influence attitude, which in turn lead to behavioral intention to adopt (or continue-to-use) mobile banking. Additionally, by using multi-group analysis with t-statistics, the results found that the antecedents of attitude toward mobile banking differ between potential and repeat customers. The implications for research and practice and future research directions are discussed.

Bamoriya, and Singh,74 shows that Mobile banking is growing yet there are numbers of issues and threats in mobile banking system and the major problem of mobile banking is its non-adoption by the customers. This research focuses on the barriers in adoption of mobile banking, on preferred services by the mobile banking customers and influence of demographic variable on mobile banking service adoption. A cross section descriptive design was adopted and data collected was subject to Product moment correlation, One way Kolmogorov-Smirnov test and Frequency analysis was employed. Finding shows that, customers’ security concern is the major barrier in adopting mobile banking services. As far as preferred services are concern balance check tops, as customers prefer information based services rather than financial services provided by the bank.
Khan and Khan\textsuperscript{75} studied the market status differences between mobile and internet banking. The worldwide improvement of information technology has affected the banking industry. In the banking segment the impact of information technology is the preface of internet banking and mobile banking. The internet has created an incredible market space, another technology is the mobile phone has emerged to take more important role in business and society. Users attitude and behavioral characteristics for internet and mobile bank were examined in this study. A structured questionnaire was designed to collect responses. Bankers and common mobile business executives included which use their cell phone for financial transactions and check their balances on cell phones. It was observed that there is no difference in perceive usefulness of mobile banking and internet banking.

Ketkar, Shankar and Banwat\textsuperscript{76} identifies the barriers/hurdles as well as enables/drivers of mobile banking and payments in India and uses the framework of interpretive structural modeling (ISM) for better understanding of their interactions, driving power and depend rives. These positive and negative influences are than mapped on a common driver – dependency grid, to gain a better insight for implementation. The study observed 11 barriers and 11 drives of mobile banking in India.

Kamini, Bhatt and Jain\textsuperscript{77} has studied awareness and perception of customers about mobile banking with reference to (i) willingness to use mobile banking, (ii) identifying adoption of mobile banking services, (iii) change in the pattern of customer interaction with banks due to emergence of mobile banking by collecting sample from Gujrat. Purposive convenience sample method was used by researcher for colleting primary data from 13 different places of Gujrat using structural questionnaire. Final sample size was 1625 people in the age group of 18 to 65 years.
They found out that (1) the willingness to use mobile banking service is dependent on gender, qualification, and income of the user.

Nair 78 Study shows that positive impact of technology infusion in almost all areas of banking operations, especially in the retail and payment systems in the country.

Hunda and Jain 79 emphasizes that mobile banking, a new challenge emerged when Nanking institutions began to consolidate their e-commerce activities. This study articulates the stimulating and inhibiting attributing in the adoption of mobile phone banking service and outlines some managerial implications.

Turban, et. al 80 has stated that, mobile banking (Internet banking using mobile devices, also known as M-Banking, mbanking, SMS Banking etc.) can perform account balances and transaction history inquiries, funds transfers, and bill payments via mobile devices such as cell phones, smart phones, and PDAs (personal digital assistants) further observed by then that, acceptance and adoption of mobile banking differs from adoption of non-mobile Internet banking is at least two ways. First, the difference between mobile and non-mobile Internet banking is the pace of evolution, with mobile banking evolving much faster than on-mobile Internet banking.

Information systems (IS) researchers81 have proposed that mobile banking can be considered as one of the most significant technological innovation, which is emerging as a key platform for expanding access to banking transactions via mobile or handheld devices, and operating wireless communication technologies (Herzberg, 2003; Kleijnen, Wetzels, & Ruyter, 2004; Laukkanen & Lauronen, 2005).
Mallat, Rossi, and Tuunainen\textsuperscript{82} claimed that mobile banking services provide customer value creation due to being inherently time and place independent, as well as their effort-saving qualities.

According to Sulaiman, Jaafar and Mohezar, 2007\textsuperscript{83}, mobile banking may have new features (such as ubiquity, flexibility and mobility) compared to conventional banking channels (e.g., automated teller machine, phone-banking, non-mobile Internet banking), however, the effects of innovation attributes deserve attention have not been fully understood in the adoption of mobile banking. On another study Laukkanen measured performance towards mobile and state that’s mobile banking can be treated as a technological innovation because it allows customers to conduct banking transactions without constraints of time and place and to connect banking services easily and quickly with mobile devices\textsuperscript{84}.

Souranta and Mattila \textsuperscript{85}, took the Bass model of diffusion to separate 1253 respondents into non – users occasional users and regular users according to their mobile banking usage experience and density. The Bass diffusion model assumes that potential adoptions of an innovation are influenced by two types of communication channels : mass media and interpersonal word – of mouth, and the adoption rate can be described by S – shaped diffusion curves.

By employing innovation diffusion theory (IDT) and the decomposed theory of planned behavior (DTPB), Brown et al.\textsuperscript{86} surveyed 162 respondents and discovered that perceived advantages, the opportunity to try out cell phone banking, the number of banking services required by respondents and perceived risk significantly influenced people to adopt mobile banking. Lee et al.performed eight interviews to collect transcripts from participants and concluded that relative advantages and
compatibility were positive factors affecting the adoption of mobile banking, perceived risk was negative factor affecting the adoption of mobile banking, and consumer previous experience and self-efficacy generalized their beliefs (a negative or positive attitude) toward the adoption of mobile banking.\textsuperscript{87}

Yu\textsuperscript{88} studied factors affecting individuals adopt mobile banking on UTAUT model, through 441 respondents. This study empirically concluded that individuals intentions to adopt mobile banking was significantly influenced by social influence, perceived financial cost, performance expectancy and perceived creditability, in the order of influencing strength and consumer previous experience and self – efficacy generalized their beliefs (a negative or positive attitude) toward the adoption of mobile banking.

Contrasting to the study of Suoranta and Mattila [2004], Laforet and Li [2005] surveyed 128 respondents randomly selected in the city streets and indicated that awareness significantly influenced the adoption of online and mobile banking, while consumer awareness was effectively increased through mass media rather than word-of-mouth communications. Given that the reference group did not significantly affect the adoption of online and mobile banking, Laforet and Li [2005] thus contended that mass media was much more important than interpersonal word-of-mouth in affecting people to adopt mobile banking.\textsuperscript{89}

By adding one trust-based construct and two resource-based constructs, Luarn and Lin\textsuperscript{90} employed the extended technology acceptance model (TAM), Amin et.al (2008) used and extended TAM containing to explore human behavioral intention to use mobile banking. They collected 180 respondents in Taiwan and discovered that perceived self-efficacy, financial cost, credibility, easy-of-use and usefulness had
positive effects on the behavioral intention to use mobile banking. Likewise, due to the parsimony and predictive power of TAM, used an extended TAM containing five constructs - perceived usefulness, perceived ease-of-use, perceived credibility, the amount of information, and normative pressure - to explore the adoption of mobile banking. They gathered 158 valid questionnaires in Malaysia and supported that perceived ease-of-use markedly influenced perceived usefulness and credibility, and human intentions to adopt mobile banking was significantly affected by perceived usefulness, perceived ease-of-use, perceived credibility, the amount of information, and normative pressure.

Drawing from the theory of innovation resistance proposed by Ram and Sheth⁹¹ Laukkanen et al. [2007]⁹² summarized 18 factors into five barriers, namely Usage, Value, Risk, Tradition, and Image barriers.

The theory of innovation resistance, adapted from the psychology and the IDT of Rogers [Rogers 2003], aims to explain why customers resist innovations even though these innovations were considered necessary and desirable. Through investigating 1525 usable respondents from a large Scandinavian bank, uncovered that the value and usage barriers were the most intense barriers to mobile banking adoption, while tradition barriers (such as preferring to chat with the teller and patronizing the banking office) were not an obstacle to mobile banking adoption.⁹³

Yang [2009]⁹⁴ employed the research measurement model and item response theory to survey 178 students from one of largest university in south Taiwan. He found that the speed of transactions and special reductions in transaction fees encouraged mobile banking adoption, while factors inhibiting mobile banking adoption were safety and initial set-up fees. Similar to the finding of Yang [2009], Cruz et al.⁹⁵
surveyed 3585 online respondents in Brazil and supported that the cost of Internet access and service and perceived risk were top two barriers for adopting mobile banking services.

Based on TAM and TPB research structure, Sripalawat et al.\textsuperscript{96} collected 195 respondents and found subject norms to be the most influential factor, perceived usefulness to be the second influential factor, and self-efficacy to be the third influential factor in mobile banking adoption. Based on the extended TAM and through collecting 325 valid responses from MBA students in India, Dasgupta et al.\textsuperscript{97} first employed the exploratory factor analysis to identify seven antecedents to behavioral intention toward the adoption of mobile banking. Thereafter, they utilized the regression technique to examine the effects of these antecedents on behavioral intention. Their empirical results supported six of seven antecedents, except for risk. The six antecedents were perceived image, perceived usefulness, perceived ease-of-use, perceived value, self-efficacy, perceived credibility, and tradition, which significantly influenced the behavioral intent to use mobile banking.

Mobile phones provide technological services that reduce costs; increase income and increases reach ability and mobility. They can help to extend social and business networks, and they clearly substitute for journeys and, for brokers, traders and other business intermediaries\textsuperscript{98}.

Chogi presents paper on survey conducted in Nairobi, Kenya investigating the socio-technical dimension of using mobile phones in the micro and small enterprises commonly referred to as jua kali businesses in Kenya; and the socio economic impacts it has on the urban micro entrepreneurs. The study is uses Activity theory to explain various activities of the urban community using the mobile phone as tools to
achieve different objectives (benefits). The results explains in details the changes in the way the micro entrepreneurs interact with each other and the family members (socio- networks) and the enhanced business contacts from suppliers and the customers. This study discusses the various ways in which mobile phones has transformed the micro enterprises in Nairobi. It emphasizes a convergence of mobile phone technology with socio-economic activities in the micro-enterprises of Nairobi, and its relevance to the developing countries\textsuperscript{99}.

One of the major boundaries of the industry deals with geographical location. Though mobile phones are readily available across the globe, many regions and countries are without cell service rendering the device useless in that part of the world and leaving out potential buyers, pointed out by Vick\textsuperscript{100} on the other hand Beaumont\textsuperscript{101} stated that, cell phones played a crucial role in reporting about the Mumbai attacks to the world. The victims and eye-witnesses at the scene of the crime sent text messages from Time by following live twitter updates and using pictures of the attacks posted by bloggers.

Priyanka Matanhelia\textsuperscript{102} their cell phones to twitter, a social messaging utility, where anyone could read their messages in her study explored the use of mobile phones among young adults in India. The study used the theoretical frameworks of uses and gratifications approach from media studies, social cognitive domain theory from human development literature and social construction of technology (SCOT) from Science and Technology studies. The main objective of the study was to examine the use of mobile phones to fulfill communication, media and age-related needs by young people in India and to investigate regional and gender differences.
Parasuraman et al. agree that service quality is an abstract concept, difficult to define and measure.\textsuperscript{103}

On service quality modelling, Grönroos\textsuperscript{104} model divides the customer’s perceptions of any particular service into two dimensions, namely technical and functional quality.

In another study Parasuraman, Zeithaml and Berry\textsuperscript{105} proposed the gap model of service quality that operationalized service quality as the gap between expectations and performance perceptions of the customer. Murfin, Sclegelmilch and Diamanto-poulos\textsuperscript{106} developed the service quality model for medical services.

Zhu, Wymer and Chen\textsuperscript{107} proposed the service quality model highlighting the information technology (IT)-based service options to investigate the relationship between IT-based services and customer’s perceptions of service quality.

Cronin and Taylor\textsuperscript{108} found the SERVPERF scale to outperform the SERVQUAL scale in terms of both reliability and validity. Also the issue of universal dimensions of the SERVQUAL scale for various service applications is debatable.

Mangold and Babakus\textsuperscript{109}, agree that both SERVQUAL and SERVPERF scales may not be comprehensive in capturing the service quality construct, as both of them focus only on the functional quality attributes, and not on the technical quality attributes. Therefore, the present research adopted a unified approach by combining functional as well as technical quality attributes for service quality measurement of cellular mobile services.
Lum, in the study\textsuperscript{110} investigates the effect of cell phones on economic development and growth by performing an econometric analysis using data from the International Telecommunications Union and the Penn World Table. It discusses the various ways cell phones can make markets more efficient and how the diffusion of information and knowledge plays into development.

Pousttchi, K and Schurig, M.\textsuperscript{111} has said mobile banking is a subset of electronic banking which underlies not only the determinants of the banking business but also the special conditions of mobile commerce. This paper analyzes customer needs and expectations from the mobile applications' view and from the banking view in order to derive a defined set of requirements. Based on these results, existing mobile banking applications are assessed. Their major shortcomings are explained, opportunities for their improvement are shown and the impact of upcoming new technology is discussed. The outcome of the paper is a defined 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 their improvement.

Concerning the nature of its functions and services, the banking sector is relatively open to innovative technologies. This may be due to the fact that competition has increased and banks have recognized the importance to differentiate themselves from other financial institutions by offering services online via different distribution channels observed by Gan \textit{et al}.\textsuperscript{112}

The wide penetration and rapid diffusion of mobile phones has opened mobile service opportunities for the banks. Indeed, value-adding mobile services are
becoming increasingly important in gaining a competitive edge in the marketplace stated by Wang et al.\textsuperscript{113}.

The diffusion perspective, including the motivating factors of adoption and characteristics of innovation adopters has up until now represented the mainstream of the literature on innovations Gatignin and Robertson, Ram\textsuperscript{114}. While at the same time, the reasons that hamper or postpone the diffusion of an innovation appear to have been somewhat neglected in the academic literature Bradley and Stewart\textsuperscript{115}.

In addition, even though adoption and resistance may also coexist, before adoption may begin the initial resistance must first be overcome (Ram, 1987)\textsuperscript{116}. Thus, in order to reduce the possibility of product failures, it is of essence for managers and firms in general to identify the sources of resistance to innovations (Ram, 1989)\textsuperscript{117}. Besides practical interests, resistance as a phenomenon also raises academic significance to understand those individuals who resist innovations and the reasons that slow down the adoption process.

Despite certain prognoses claiming a resounding success, it has become clear that the real usage of financial mobile applications lags way behind the projected scenarios Walden et al\textsuperscript{118}. Basic mobile services (SMS, MMS, music downloads, games and news services) are popular in Europe Mylonopoulos and Doukidis\textsuperscript{119}. Carlsson \textit{et al.}\textsuperscript{120}; however, more advanced services, such as mobile banking, have yet to find their way into the everyday lives of consumers. Thus more research is needed in order to better understand what determines non-adoption behaviour in this context.
2.3 **Gap in earlier studies:**

The researcher has reviewed about 120 studies on mobile phones and mobile banking and their related aspects; and after reviewed it is found out that,

1. There are more studies available on Mobile Phone and mobile banking history and developments, mobile gadgets and competitive studies on different mobile companies but very few studies are done on the mobile phone users specifically their business aspects. Mostly general behaviour of mobile phone users is covered by researchers.

2. While doing the literature review it was observed that, in relation with mobile phone studies the earlier researchers have focused more on the functioning, liking, growing popularity, utility of new or existing function but very few have studies the impact of those functions on the mobile phone users and business together. It was also observed that functions in terms of trade and commerce were least studies.

3. Many studies are done on dimension of service quality for mobile phone and mobile banking but there are very less number of studies found which are actually on measuring the service quality from users perception in mobile phone and mobile banking services. Thus qualitative studies are found in general but identifying awareness, extent, willingness; etc perception is not studies very well, with reference to Thane district.

4. Many researchers have studied and paid more attention on the social and subcultural aspects and impact on kids, teenager’s, youngster’s in totality the
social side of mobile phone users have been seen more. But Business and their movement mindset is not addressed.

5. The studies are made on M – Commerce, M – banking from the point of view of company and kind of services being offered in a very general nature, there is hardly any study found on mobile phone users perception towards mobile phone and mobile banking business activity and movement which is very important in today’s scenario. Hence the present study aims at studying the mobile users business activity and movement in respect of mobile phone and mobile banking services.

6. There exist few studies on the mobile phones and the mobile phone users at International, National, Regional even District level also; like on India, China, Japan, Africa, Kenya, USA, Pakistan, Uganda and on district level Ahmedabad, Delhi, Pune, Mumbai etc but researcher could hardly found any study specifically done on Thane District or in other words one can say that there has been no attempt made to study mobile phones users in Thane District from business activity and movement point of view perception towards mobile banking services.

7. In all 69 mobile phone studies are reviewed, whereas 51 studies are related to mobile banking. Therefore few studies are on mobile banking at Maharashtra level and very few at Mumbai level. Whereas there is not a single study found on Thane district. If at all there is any, but not covering all 15 Taluka’s of Thane District.

8. The idea of business activity and movement is taken from BSE index and measures just like stock exchange activities and movements takes place and studied this type of model nobody used for mobile phone users. In stock
exchange all financial instruments are all activities; and its buying and selling is called movements; similarly here all types of mobile calls and mobile functions are called business activities and operation of it is called movement.

9. Hence to fill up the some gap in earlier studies, an attempt have been made in the present research to study the perception of mobile phone users on mobile phone usage and mobile banking services.
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