CHAPTER - 2

AIM AND METHODOLOGY
Chapter – 2
AIM AND METHODOLOGY

INTRODUCTION

This research is in pursuit of consumer satisfaction of mobile services rendered by Airtel in Bangalore district and to draw inferences about the benefits and utilities offered by the leading cellular service provider viz., Airtel to the rural and urban consumers of Bangalore district.

The study initially presents a brief sketch of the origin of telecom industry in India and point out the recent trends in the cellular services industry, with special reference to Airtel.

Statement of the Problem

The marketing or services programme of any organization - business or non-business - should aim at satisfying the ultimate consumers or the clientele of the product or service. Nowadays, improper commitment in rendering due services to the customers is a common phenomenon.

Telcom in India is one of the fastest growing sectors. It has undergone both evolutionary and revolutionary changes. Mobile communication is revolutionizing economic and social life in India and helping the local entrepreneurs for a better accessibility to various
business activities such as marketing opportunities, changes in demand, price fluctuations and availability of human resources.

It has completely changed the way of communicating among the masses and corporate sector. The process of globalization is facilitated by communication through interconnectivity, networking and the spread with which information is flooding. The concepts of globalization, liberalization, marketisation and privatization are more pronounced in the telecom sector of our country. Instantaneous connectivity, access, interception have made feasible by high end cutting edge technology. The speed with which changes are taking place in the sector in inexplicable. The advancement in technology made so many product and services obsolete and brought in the new sophisticated communication media. The rate of obsolescence is very high owing to the Research and Development (R&D) in telecom and Information Technology (IT) Sector.

Need for the Study

The environment of telecom sector is highly turbulent making existing functional practices to fall out within a short period of time and the service providers have to continuously scan the internal and external environments for strategic and beneficial practices which are ultimately expected to satisfy the end-users.

On the economic front, the telecom players are shattered with cut throat competition and every player is facing the challenges and threats in the complex environment. The position of the service
provider will be jeopardized, unless the company rises to the occasion to be proactive, pragmatic and positive. Among all problems confronting the players, the major problems such as investment of capital, customer churn, increasing customer base, devising strategic methodologies and practices for increasing the Average Revenue per User (ARPU), keeping in pace with technological advancement and meeting regulatory requirements are more important. The service providers in the telecom industry must judiciously manage resources and technology with effective marketing for organizational effectiveness.

The telecom industry is highly technology sensitive. This entails innovation and creativity through Research and Development (R&D) through committed and talented workforce. On one hand, there exists a vast scope for expansion by penetrating to rural India and on the other, the organizational structures are revamped and revitalized in view of global competition. Therefore, the present study is conducted to know the knowledge of customer perception about services rendered by Airtel and also perceive the price of their services and availability of Airtel customer outlets in close proximity.

**Significance of the Study**

A study of this type would enable the company to know their market share and awareness level of the customers so that necessary steps can be taken to help the under privileged people of India to make use of communication revolution for their individual growth. The
recent paradigm shifts in the telecom industry, more particularly in the telecom service sector calls for undertaking a micro level research study to unearth the perception of consumers, their tastes and preferences, opportunities to be tapped and strategies to be framed by satisfying them to sustain in the telecom sector. Hence the present study of consumer satisfaction towards Airtel services in Bangalore has been undertaken.

The ultimate success of all economic activities primarily depends on the producer manufacturing and selling goods and services desired by the target consumer. The ultimate decision of whether or not to purchase the product or service and from whom to buy has always been rested in the hands of the final consumers. Since the focus of attention is on the ultimate consumer, the marketer is always probing and trying to learn who buys products/services? When do they buy goods/services? Why do they buy goods/services? This shows that there is always an attempt on the part of the marketer to understand study and predict human actions in the buying role.

Marketers have come to depend upon consumer research studies for more information on the spending habits of consumers vis-a-vis their preferences. Research studies have also revealed that there is a multi disciplinary approach to the study of consumer behaviour.

Understanding the buying behaviour will provide insight to the marketing managers on how to go about planning and implementing their various marketing programmes. The consumers are also aware
of the realities taking place in the market. Global competition always forces companies to offer qualitative valued products. On one hand producers have realized that consumers cannot be taken for granted and hence putting all their efforts at manufacturing products/services to meet the consumer needs. And on the other hand, consumers demand value for their money.

A satisfied customer will do the word of mouth advertising for the company and vice-versa. Thus identifying customer needs and directing all marketing efforts at delivering customer value is the motto of companies today. They are continuously engaged in trying to probe and understand the complex consumer behavior better and respond by offering goods and services desired by them and then communicating about the same through the various communication media.

This study would enable the industry-university research linkages by providing better insights into the various aspects of marketing of Airtel services.

**OBJECTIVES OF THE STUDY:**

The main objectives of the study are as follows:

1. To study the telecom industry, its origin and recent developments in the cellular service industry in India.
2. To study the company profile and penetration of Airtel into the cellular market of India

3. To study the brand awareness of Airtel among mobile users

4. To find out the level of consumer satisfaction as regards Airtel services and the factors perceived by consumers, which contribute to their overall satisfaction of Airtel services

5. To derive findings and offer suggestions.

**Methodology of Research:**

The data needed for the study were collected from both the primary and secondary sources.

The primary data comprises the opinion gathered from the public through administering questionnaires. About five hundred questionnaires were distributed on random sampling basis in all the wards of the town to the targeted consumers out of which 300 respondents responded. The questionnaire method is chosen for its versatility, speed and cost benefit.

**Field Work:**

The field work was conducted in urban and rural areas of Bangalore district. Interviews were conducted for customers of Airtel in places like colleges, business establishments and other public places etc., through a questionnaire administered among them. In other words the following sampling plan was adopted.
**Design of Sample:**

An integral component of research design is the sampling plan. It includes the following:

1. The sampling unit: The existing mobile users in Bangalore.
2. The Sample Size: Three hundred in numbers. It includes Airtel mobile users in Bangalore city.
3. The sampling procedure: Random sampling techniques were adopted, by approaching mobile users in both urban and rural areas of Bangalore district.

**Secondary Data:**

Secondary data were collected from journals, dailies, company profiles and published literature from various magazines and newspapers.

**Tabulation and analysis of data:**

The collected data were tabulated and presented through tables and graphs. In order to achieve the objectives of the study, the data were analyzed with the help of simple techniques of statistical analysis such as average, percentages, bar diagrams and in order to interpret data and draw conclusions.

**Scope of the Study:**

The scope of the study encompasses the telecom scenario, telecom policy, role of telecom regulatory authorities, private players participation, growth of teledensity, strategies for telecom players, benefits to the customers, Foreign Direct Investment (FDI) in telecom...
sectors, revenue sharing among different service providers, fair competition, tariff structure, pricing and a host of others.

The study is basically confined to the limits studying perceptions and attitude of consumers, rate of awareness and satisfaction among the consumers about Airtel services and to study the factors contributing to consumer’s preferences for Airtel services. However, the results of the study can be generalized to other like cities. But necessary changes need to be made and relevant data and techniques to be used in the analysis, keeping in view the objectives of their research and availability of resources.

The study is designed so that it yields maximal information and provides an opportunity for considering many different aspects of a problem.

**Based on this study:**

- Effective pricing policies can be made.
- The gap in customer expectations and company in offer can be minimized.
- Effective promotional policies can be framed to reach potential and prospective customers.
- Various tools to build brand awareness of Airtel effectively can be designed.

**REVIEW OF LITERATURE:**

Literature survey is the bedrock for carrying out any purposeful and objective research programme. The essence of review of
literature lies in ascertaining the research gap. What has already been covered on the topic "Consumer satisfaction in telecommunication services" – A case study of Airtel in Bangalore by the earlier researchers and what needs to be covered speaks about the chasm. Accordingly, a sincere attempt has been made to identify the research gap. For this purpose, books, articles, reports, news bulletins, dissertations, theses, journals, magazines, international institutional reports, CD ROMs, microfilms and the like have been thoroughly and comprehensive reviewed. The review covers the opinions ideas and research findings of the luminaries in the telecom filed. The details are:

**Anthony M. Townsend and Mitchell L. Moss**¹ (2005) in their research article coherently described the breakdown of essential communications and the risk associated with communication failures that remains serious because of growing dependence upon these tools in emergency operations.

**Ashok Jhunjhunwala, et al**² (2004) in their paper in an astute manner with great concern for the rural masses, outlines that for a very long time now, the developing world has carried the burden of colonization and slavery. This paper concentrated on how ICT can affect the lives of rural people in the developing world.

---

Ashok Jhunjhunwala ³ (2000) described the challenges of telecom sector in India and pinpoints that in the last ten years major implications have taken place in the Indian telecom scenario and further pointed out that India was emerging as a leader in WLL technology.

Akhil Gupta ⁴ (2002) described that the telecom industry had been witnessing a dynamic change for the past two decades in the direction of market shifts, technological drivers and economic factors. The market shift variables are deregulation, globalization and consolidation.

Anurag Prasad ⁵ (2005) observed that in India where teledensity has just crossed 10, a huge chunk of population, especially in the rural areas, remain untapped.

Apoorva Palkar ⁶ (2004) focused on examination of the relationships among the service quality, customer satisfaction and payment equity for the services provided by cellular service providers and it shows the influence of quality attributes on customer satisfaction and payment

---

5. High on Numbers, low on Revenues, article published in Voice and Data, Vol 12, Issue 4, October 2005, p 28
equity, and found out five key quality elements that determine customer retention.

**Aditya Khanna** 7 (2006) expounded how the mobile data market takes off, television, music and film companies are the first gainers. The research meticulously foreseen the future of mobile related entertainment.

**Aileen A. Pisciotta** 8 (2001) observed that the wave of telecom reforms that was sweeping the globe began in the 1980s. In the 1990s, it seems that a rash of privatization has swept around the globe, spreading to emerging markets of Latin America, then central Europe and now Africa. The author examines the objectives underlying these reforms.

**Dr. Aditya Dev Sood**, 9 highlights “while mobile phones are widely seen merely as communication medium, they should really be seen as a new and essential form of infrastructure that will transform a host of other service sector in rural economies around the world”.

**Aaker** 10 (1991), in his paper explained that in reaching retention, vendors should manage satisfaction and consequences of customer loyalty. Loyalty too has a pyramid effect that suggests of having hierarchy in loyalty levels between customer and vendor. Change in loyalty level will manifest itself in the presence of specific attitude and behaviour.

---


Anderson\textsuperscript{11} (1973) developed assimilation-contrast theory to explain the differences between consumer expectations and the quality which is too large to be perceived and exaggeration of this difference.

Andrew Hardy\textsuperscript{12} (1980) studied the impact of telecommunications on growth based on 45 countries, with the largest effect of telecommunication investment on GDP found in the least developed economies, and the smallest effect, in the most-developed economies.

Abraham \textsuperscript{13} (2007), examined that the widespread use of mobile phones increased the efficiency of markets by decreasing risk and uncertainty, although it noted that realising potential efficiencies depended on easy access to capital.

Biplab Chakraborty and Subhasis Das\textsuperscript{14} (2003) studied the pricing models adopted by the GSM operators in India made in - roads in evolving different pricing models and comparing them with those prevalent in India and observed the changes and innovations that are likely to occur in the near future.

\begin{enumerate}
\item Andrew Hardy, A.1980. The role of the telephone in economic development, \textit{Telecommunications Policy.}, Amsterdam, 4(4): 278-286.
\item Contemporary Concerns Study – Pricing Models in the Telecom Industry, working paper of India Institute of Management, Bangalore, 2003
\end{enumerate}
Bhatt\textsuperscript{15} (2008), analyzed that it was important for mobile carriers, service providers, content developers, equipment manufacturers, as well as for parents and young people alike that the key characteristics of mobile technology is well understood so that the risks associated with its potentially damaging or disruptive aspects can be mitigated.

Berry\textsuperscript{16} 1983 stated that in service industry particularly in ICT industry strategies play a very critical role in enhancing retention. Attraction of new customers is an intermediate step in marketing process. Solidifying relationship and transforming them as loyal customers, serving customers as clients too should be a part of marketing

Bayes \textit{et. al.}\textsuperscript{17} (1999) noted that the average prices of agricultural commodities were higher in villages with phones than in villages without phones. The villagers use telephone calls for economic purposes such as discussing employment opportunities, prices of the commodities, land transactions, remittances and other business items.

\textsuperscript{15} Bhatt, Andre, "A Study of Mobile Phone Usage Among the Post Graduate Students", information technology, December 25, 2008.
Bhavnani et al., 2008 pointed out that despite the increasing rural demand for relevant, timely agricultural information on the one hand and recent advances in quality and capacity of ICT services on the other, the benefits remain unevenly distributed among people.

Bertolini, Romeo (2004), observed that ICT could make the greatest contribution by telescoping distances and reducing the cost of interaction between stakeholders. ICT has the potential to help farmers in the entire cycle of production, i.e., from production to sales. ICT impacts both observable and unobservable transaction costs.

Bhatnagar (2008), found that most efforts to make ICT available to rural farmers have sought to improve the availability and quality of information either indirectly through producer associations, extension workers and the like, or directly through broadcast radio information, telecentres, and mobile short messaging services (SMS).

---

Bhatnagar,\textsuperscript{21} (2008), stated that the rural ICT initiatives in agriculture such as computerization of agri-markets, informational extension services, digitalization of land records by the Karnataka government and computerization of co-operative milk collection centres have lowered costs for farmers, added value to output and improved transparency in the system. Coyles and Gokey,\textsuperscript{22} (2005) stated that the emergence of Information & Communication Technology (ICT) and Multi media. ICT dramatically changed the world socially, politically and economically. Cooil \textit{et al.},\textsuperscript{23} (2007) stated that customer loyalty and satisfaction are integral part of customer retention process. Customer retention is a primary measure of loyalty. There is a positive relationship between changes in satisfaction and share of wallet. In particular, the initial satisfaction level and the conditional percentage of change in satisfaction significantly correspond to changes in share of wallet. Income and length of the relationship negatively moderate this relationship.

Cronin \textit{et al.} \textsuperscript{24} (1993b) established a statistically significant causal relationship between productivity growth and portion attributable to telecommunications.

Chris 25 (2003) attempted to investigate why Telecom theme are used in advertisement, and the motives that lead companies and advertisers to use sport celebrities and sport concept in advertisements. The study revealed that the appearance of sport celebrities in advertising endorsement occurred more often in Telecom magazines than in other magazines, because their target group is more acquainted with athletes.

Chatterjee et. al. 26 (1998) pointed out that income patterns decide the disposable income levels i.e. purchasing power for telecommunication services, and in turn the growth of services. The increases in purchasing power contributed by increased telecom services also increased demand for such services.

Cronin et. al. 27 (1991) stated that economic activity and growth stimulates demands for telecommunication services. As the economy grows, more telecommunications facilities are needed to conduct the increased business transactions.

Clint Smith and Daniel Collins 28 (2002) pointed out that the wireless industry continues to provide new opportunities and challenges because of the proliferation of wireless devices combined

with the ever-increasing hand width requirements envisioned for further packet data applications.

Claire Milne 29 (2001) identified three arguments as to why the quality of cellular service needs regulation and further opined that continuous improvement in many dimensions of telecom service quality has come to be the norm in all advanced economies.

Chowdary T.H. 30 (2006) opines, in his article that telecom has come a long way, from the fixed telephones to anywhere mobiles and the internet era.

Carsten Fink et al. 31 (2001) examined the liberalization of the basic telecommunications sector in Asian countries, with a view to identify the elements of good policy and examine how it can be promoted through multilateral negotiations.

Desai Ashok V 32 (2006) in his book inscribed today’s telecom sector as one of the success stories in infrastructure reform. Given the crucial role of telecommunications in bringing about and sustaining India’s success in cross-border supply of Information Technology enabled services (ITes), it is very important to sustain competition in the sector.

32. India’s Telecommunication industry history, Analysis and Diagnosis SAGE publications India Pvt Ltd. New Delhi, 2006.
Debnath\textsuperscript{33} (2008) explained in his study that the prime focus of the service providers is to create a loyal customer base by benchmarking their performances and retaining existing customers in order to benefit from their loyalty.

De Long and Summers\textsuperscript{34} (1993) found based on several regressions and instrumental variable methods, strong connection between investment and productivity growth in developing countries, which imply that developing economies have to import and install machinery and equipment, in order to grow.

De Silva and Ratnadiwakara\textsuperscript{35} (2008) found that farmers in Sri Lanka were able to improve their incomes through simple mobile phone applications that helped reduce waste through a feedback system. The study found that up to 40 percent of crop loss could be prevented with quick interventions facilitated by information received via SMS.

---


87
Emmanuel C Lallana \(^{36}\) (2004) aesthetically submits in his paper that information and communication Technologies (ICTs) such as telephones, computers, television, radio and other ubiquitous communication devices are fast becoming essential components of our day-to-day lives.

Eggleston et. al.\(^{37}\) (2002) showed how basic telecommunication infrastructure can create a “digital provide” by making market efficient through information dissemination to isolated and information-deprived locals and improve the living standards of the world’s poor, which in turn accelerates growth.

Fernandez \(^{38}\) (2007) made an attempt to under the strategic dynamics of the evolving environment within which the Indian players are operating, the challenges and structure of the same.

George Carlo and Martin Schram \(^{39}\) (2002) raised questions about the integrity of the cell phone industry in view of the invisible hazards dominating in the wireless age.

---


Global Monitoring Report \(^{40}\) (2006) presented the extraordinary turnaround in perceptions of the quality of service delivery in Bangalore. Perceptions of service delivery performance of telecom services rendered by BSNL in 1994 to 2003 have dramatically increased from a meager nine percent to ninety two percent.

**Gerpott et al.** \(^{41}\) (2001) dealt with how the results from the saturated markets, de-regulation of telecommunications industry (removal of monopoly rights, especially enjoyed by state-owned telecoms networks), and increasing number of mobile service providers, enormous technical development and intense market competition.

**Gerpott et al.** \(^{42}\) (2001) investigated customer satisfaction, loyalty and retention in the German mobile telecommunications among 684 respondents and reported that customer retention can not be equated with customer loyalty and/or customer satisfaction, rather a two-stage causal link can be assumed in which customer satisfaction drives customer loyalty which in turn has impacts on customer retention and further concluded that, however, these three factors are important for superior economic success among telecommunication service providers.

---

Gayathri Krishnamurthy 43 (2004) in her paper explored the evolution of the Indian telecommunications industry over the past decade. The key business transformations required in the changing business landscape.

Gupta 44 (2000) stated, stressed the need for a comprehensive legislation based on convergence.

Gupta 45 (2000), estimated through his study that one per cent growth in telecommunication services generates three percent growth in the economy.

Garbade and Silber 46 (1978), found in their study strong statistical support for the hypothesis that the two innovations in communication technology - the telegraph and Trans-Atlantic cable - led to efficient market places world wide through significant and rapid narrowing on inter-market price differentials.

Hill and Alexander 47 (2000), wrote in their book that “companies now have big investment in database marketing, relationship management and customer planning to move closer to their customers”.

44. J. R. Gupta, Dy Director Gneral (VAS), Department of Telecommunications, Ministry of Communications and IT Government of India, A Presentation on Enforcement and Dispute Resolution Enforcement and Dispute Resolution at the APT Forum on Telecom Policy and Regulation, New Delhi, 17 May 2002.
Joseph E. Stiglitz 48 (2005) highlighted telecom as driver of change and the telecom revolution would facilitate trade in services, not just in goods, and further concluded that telecom sector created new market opportunities.

Jackson et al.49 (1996), Platow et al. (1997), and Homburg and Giering (2001) expressed that customer behaviour and attitudes are greatly influenced by demographic, situational, environmental and psychological factors and these factors can be used by companies and policy makers to develop strategies to meet different needs of the different customer segments. Hence, there is need to gain more understanding of the influence of these factors on customer satisfaction.

Jones and Sasser50 (1995) wrote that improving customer satisfaction is the main goal for most service firms today.

Jallet Fredric 51 (2008) analyzed the importance of yield management and discrimination pricing in telecommunication sector.

---

**Jain and Sridhar**\(^5^2\) (2003) stated that reduced per line cost, quick deployment and better available technology are reasons for the growth of cellular services in developing countries.

**Jha and Majumdar**\(^5^3\) (1999) noted that, for developing countries where penetration rates of telephones are extremely low, catching up with developed countries in terms of telecom infrastructure has meant investment in wireless and mobile systems local loops, bypassing investment in fixed lines. This is especially so because mobile networks are a quick and inexpensive way for developing green field projects.

**Jhunjhunwala**\(^5^4\) (2000) examined the sparsely studied relationship between telecom infrastructure and economic growth in developing economies, as these countries can use ICT diffusion for spreading growth more rapidly. He stated that one of the reasons was high cost of providing telecommunication services in rural areas and low purchasing power of rural population. While in developed countries, 90 percent of the households can afford monthly expenditure of US dollar 30 on telecommunication services, only 5-6 percent of the households can afford in developing countries such as India.

---


Jensen 55 2007 stated that the increasing penetration of mobile networks and handsets in India presents an opportunity to make useful information more widely available and examined the impact of mobile phone use by Kerala fishermen. Jensen found that the introduction of mobile phones decreased price dispersion and wastage by facilitating the spread of information, which made markets more efficient and enhanced both consumer and producer welfare.

Kim et. al. 56 (1997) observed that telecommunication infrastructure is little different from other infrastructure, as a determinant of economic growth because of the existence of network externalities, a phenomenon that increases the value of a service with increase in the number of users. Because of this, the impact of telecom infrastructure on economic development is more pronounced as compared to other traditional infrastructure.

Krishna Kumar R 57 (2006) identified key drivers for telecom growth in India, which are competition, broadband penetration where all villages go connected by 2007, standards and equipment maturity.

Kim et al. (2004) investigated the effects of customer satisfaction and switching barrier on customer loyalty among 350 respondents in Korea and reported that call quality, value-added services and customer support have significant impact on customer satisfaction. Lonergan et al. (2004) reported that at the beginning of 2004, there were over 1.3 billion mobile phone users worldwide and by 2007, the demand for mobile services would have grown at an average annual rate of 9.1%.

Kannan et al., (2001) argues that telecom firms are facilitating m-commerce by rolling out packet-oriented, wireless bearers such as General Packet Radio service (GPRS), Enhanced Data Rates for Global Evolution (EDGE) and Universal Mobile Telecommunication Systems (UMTS). As the number of mobile device users increases and exceeds that of static terminals like personal computers, conducting business and services over these mobile devices is becoming attractive and is expected to drive the future development of e-commence.

Kala seetharam Sridhar and Varadharajan Sridhar (2003) in their research paper investigated the relationship between telecommunications and economic growth using data for developing countries.

Krishnan Venugopal \(^{61}\) (2003) in his paper sought to provide a basic foundation for developing countries to approach the telecommunication sector negotiations by studying the experience of some developing countries in the Asian region, namely, India, Malaysia and Sri Lanka in the negotiations that lead to the World Trade Organization (WTO).

Krishnan Gopalan \(^{62}\) (2006) in his article stated that spectrum is essentially a frequency wavelength that mobile telephony operators need, it is what is termed as a public goods and needs to be allocated by the government in return for a consideration. He explained the ins and outs of spectrum.

Kaveh Pahalavan and Prashant Krishnamurthy \(^{63}\) (2005) in their book have lucidly covered the overview of wireless networks. The authors elaborately discussed the principles of wireless network operation, Global System for Mobile Communication (GSM), Time Division Multiple Access (TDMA), Code Division Multiple Access (CDMA) technology and the like. They pointed out that wireless networking has emerged as its own discipline in the 21\(^{\text{st}}\) century.

Kalavani \(^{64}\) (2006) stressed in his study that they need to bridge the gap between the services promised and services offered.

---

61. *Telecommunication Sector Negotiations at the WTO: Case studies of India, Sri Lanka and Malaysia, ITU/ESCAP/WTO Regional Seminar on Telecommunications and Trade Issues, Bangkok, Thailand, 28-30 October 2003*
64. Kalavani, Banumathy, “*Consumer’s Attitude towards Cell phone Services*”, Telecom Live, New Delhi, August, 2006.
Kumar,\textsuperscript{65} 2000; Kumar and Mittal, 2006; Kumar and Rosegrant, 1994; Evenson et al., 1999; Fan, et. al.; 1999) stated in their studies commonly that today, information and communication technology (ICT) and mobile-enabled agricultural services act as instruments to deliver extension services through infrastructure for mobile telephony and help create awareness amongst farmers.

Kumar\textsuperscript{66} (2008) analyzed though the telecom industry is growing rapidly, India's telecom density is less than the world's average telecom density as most of India's market is yet to be covered. This attracts private operators to enter into the Indian telecom industry, which makes the Bharat Sanchar Nigam Limited (BSNL) more alert to run its business and survive in the market.

Lara Srivastava\textsuperscript{67} (2004) explained clearly that the mobile phone has moved beyond being a mere technical device to becoming a key "social object" present in every aspect of our daily lives. Always on connectivity and mobility will define not only the future technological landscape, but also equally the socio-political one.


Mohanty and Lakhe\textsuperscript{68} (2006) in their book portrayed that telecommunication sector as a service organization that is purely subscriber oriented and identified fifteen performance parameters such as availability, accessibility, reliability, integrity and the like on one hand and the customer satisfaction is measured with parameters like customer services on the other using Total Quality Management (TQM) approach.

Mittal Sunit Bharti\textsuperscript{69} predicted the time is not far away when consumers experience 3D gaming, on their mobile phones, especially with chip makers like Intel and Texas Instruments putting in five times more chipsets in a mobile phone than in any other consumer electronic device. Huanita Ellis stated advances in networking technology, including fast ethernet, wire speed switching, and policy based Quality of Service (QoS) management, have made it possible to build converged voice and data networks.

Maran et al. \textsuperscript{70} (2004) studied the consumer perceptions about fixed telephone lines in Chennai and concluded that “Delivering service without measuring the impact on the customer is like driving a car without a windshield”.

Ministry of India\textsuperscript{71} reported that the globalization of the economy increased global connectivity, helped manufacturing and services sectors. In pursuance of the Government’s commitment to liberalize the Foreign Direct Investment (FDI regime, it has been decided to enhance the FDI ceiling from 49 percent to 74 percent in certain telecom services (Such as Basic, Cellular, Unified Access Services, National / International Long Distance, Very Small Antenna Terminal (V-SAT), Public Mobile Radio Trunk Services (PMRTS), Global Mobile Personal Communications Services (GMPCS) and other value added services), subject to certain conditions (Press Note\textsuperscript{5} of 2005 series dated 03.11.2005).

\textbf{Mobile communication} is revolutionsing economic and social life in rural India, spawning a wave of local entrepreneurs and creating greater access to social services, according to a new study by the centre for knowledge societies.\textsuperscript{72} (CKS)

\textbf{Naumann} \textsuperscript{73} 1995 stated that it costs about five times to gain a new customer as it does to keep an existing customer and these results into more interest in customer relationships and thus advocated several companies to adopt customer satisfaction as their operational goal with a carefully designed framework.

\textsuperscript{71} Government of India Ministry of Commerce and Industry Department of Industrial Policy and Promotion \textit{Annual Report, 2005 – 06.}
\textsuperscript{72} Mobile will revolutionize seven sectors in rural India 30\textsuperscript{th} January 2007, \textit{Business Line}
Nikhilesh Dholakia et al., 74 (2005) in their initial long abstract focused on China, India and Balkans to understand the interplay of technological, economic and social forces in the mobile telecommunications sector and how such interplay affects markets.

Niranjan Rao C 75 (2004) in his paper Concentrated on the telecom equipment industry and covered the issues relating to the technological characteristics; market structure and technology transfer experiences of selected developing countries.

Niraj K Gupta 76 (2000) in his landmark book traces the growth of telecommunications in the last hundred years. The wide range of topics covered encompass all the aspects of the business of telecom; telecom technology evolution, Asia Pacific Races Ahead, Telecom Liberalization in India, Financing Telecom Projects, The marketing area, including the Airtel story-case study of an operator, emergence of wireless technologies, integrated corporate networks, National Telecom Policy and the Glossary of technical terms.

Nair C.N.N. 77 (1996) in his exclusive legendary work exemplifies that the history of the development of India's external telecommunications is part of man's adventure in his eternal quest for supremacy over nature, his unabating and indefatigable thirst for conquest over distance, time and space. The history of overseas communications is traced lucidly from 1900 to 1996 with beautiful and historical moments of telecom in photographs with statistical references and worthwhile moments of telecom history.

Olshavsky and Miller 78 (1972); and Olson and Dover (1979) developed the assimilation theory, which means that perceived quality was directly increasing with expectations and concluded that assimilation effects occur when the difference between expectations and quality is too small to be perceived.

Parker and Mathew 79 (2001) expressed that there are two basic definitional approaches of the concept of customer satisfaction. The first approach defines satisfaction as a process and the second approach defines satisfaction as an outcome of a consumption experience. These two approaches are complementary, as often one depends on the other.

77. Back to the Dots... Development of India's External Telecommunications, from Morse to Mouse, Videsh Sanchar Nigam Publication, Mumbai 1996.
Parker and Mathews (2001) stated that the most popular descendant of the discrepancy theories is the expectation disconfirmation theory, which stated that the result of customers' perceptions of the difference between their perceptions of performance and their expectations of performance. Positive disconfirmation leads to increased satisfaction, with negative disconfirmation having the opposite effect.

Porter and Millar (1985) stated that the information revolution is sweeping through the economies and elaborated that IT changes the rules of competition and the unavoidability of the companies escaping from its effects. Wong 2001 stated that emergence of internet and web technology application complimented each other in the recent drive in globalization. E-Commerce applications enabled companies opening up their products to the customers worldwide.

Prabhakar T.V. highlighted that while Wi-Fi does provide wireless connectivity efficiently, it is essentially a technology solution to create Wirless Local Area Network (WLAN) in homes and offices, and it is not meant to provide high speed internet access and It might well be the technology that bridges the digital divide.

Pizam and Ellis\textsuperscript{83} (1999) reported that there are two additional distinct theories of customer satisfaction namely Comparison-level and Generalized negativity; the outcome approach of the customer satisfaction is defined as the end-state satisfaction resulting from the experience of consumption. This post-consumption state can be an outcome that occurs without comparing expectations or may be a cognitive state of reward, an emotional response that may occur as the result of comparing expected and actual performance or a comparison of rewards and costs to the anticipated consequences.

Parijat Chakraborty and Tirthankar Sen \textsuperscript{84} (2002), Gurgaon in their working paper with the objective of finding out the usage of mobile services and other services and to measure the satisfaction level of consumers with respect to telecom services conducted a survey in ten major cities covering top eight cellular service providers in India.

Pingali et. al., \textsuperscript{85} 2005, studied that the expansion of mobile phone networks and increase in mobile-density in Uganda has enabled higher market participation by farmers producing perishable crops located in remote areas and helped them realize higher prices by reducing the information asymmetry that existed between farmers and traders.

\textsuperscript{84} Mobile Usage and Satisfaction Survey, research article published in IDC India Limited, Gurgaon.
Press Trust of India (PTI)\textsuperscript{86} reported that the involvement of private sector necessitated formulation of policy framework. The sustainability of infrastructure projects depends on the success of policy planners in implementing a strong Techno-Financial and Techno-Legal regime based on viable rates of return for private sector participation.

Ravi Shankar\textsuperscript{87} (2003) examined in his book the strengths, weaknesses, opportunities and threats of MTNL, which have implications on marketing strategy and projected expected demand of the telecom service with present telephone populations by providing marketing plan for each service with product features and promotional strategies required for promotion of service product in the sector.

Ramachandran T.V\textsuperscript{88} (2004) meticulously asserted with statistical evidence that the telecom sector scenario in our country is poised to grow at a phenomenal rate and further stated that globally over country has the lowest tariffs and still declining and increasingly affordable for the price sensitive Indian consumer. Considering these parameters one sees a huge potential for growth. However, there are several challenges like declining margins, reach ability problems and high costs.

\textsuperscript{86} P.T.I Economic Service, Special Issue, 15\textsuperscript{th} August 1999, pp 16-26.
Rajat Kathuria 89 (2004) optimistically presents that Indian telecom in the context of the telecom business worldwide with special focus on Asia pacific and explained that Indian telecom sector has also witnessed phenomenally rapid growth in the last ten years, but still lays behind China and Association of South East Nations (ASIAN) countries, in investment and telecom penetration rates.

Radhika.N. 90 stated that the last decade had witnessed spectacular growth in wireless technologies. Though the sector is dominated by wireless local areas networking technologies like Wi-Fi, the future of wireless seems to be WiMas.

Rekha Jain et al., 91 (2002) in their paper attempted to address the issues by examining the budgetary process of the Department of Telecommunications (DOT) in the Ministry of Communications and Information Technology (IT), with respect to Government of India.

Rekha Jain 92 (2006), highlighted the need for a “complete” conceptual approach towards the rapid technological and business convergence in the telecom and broad case carriage sector and aims to provide a comprehensive review/ basis for a legal frame work that encompasses both.


90. Radhika. N., WiMax for a Wire-free World, article as appeared in the monthly magazines, Information Technology, New Delhi, December 2006, p 52.


92. New Policy will have to reflect on convergence, Should broadcasting and telecom sectors be converged and there be a single operator instead? Article by Rekha Jain, Financial Express Online, 9 January, 2006.
Raghavan S.V.\textsuperscript{93} (2006) raised important questions such as what can advanced technology do for rural India and how the rural areas be connected with technology in urban areas and its affordability to use it.

Reichheld 1996; Heskett et al., \textsuperscript{94} 1997, reported that increasing customer satisfaction has been shown to directly affect companies’ market share, which leads to improved profits, positive recommendation, lower marketing expenditures and greatly impact the corporate image and survival.

Rust and Subramaman \textsuperscript{95} 1992 stated that there is positive relationship between customer satisfaction and customer retention; customer satisfaction has a direct effect on customer retention.

Ragnhild Overa \textsuperscript{96} 2006, stated that the members associated with trade networks, now equipped with new technology, are able to organize their activities more efficiently and with considerable cost savings reduce both their transportation and transaction costs.

---

\textsuperscript{93} Gigabits and Gandhi – a realistic model, article as appeared in The Hindu, Wednesday, January 11, 2006.
Ruth M. Bolton and James H. Drew\textsuperscript{97} (1991), developed a model of how customers with prior experiences and expectations assess service performance levels, overall service quality, and service value. The model was applied to residential customers' assessments of local telephone service.

\textbf{Subha Rama}\textsuperscript{98} explained that the mobile operators are desperate to increase the ARPU as cellular penetration is peaking and voice prices are falling.

\textbf{Sunanda Sangwan}\textsuperscript{99} (2004) in her research article noted that mobile commerce was once hyped as 'Killer ape' for mobile devices but she describes, that there are significant challenges to be overcome with respect to size of the display screen, input characteristics, security and perceptions of trust.

\textbf{Sayeedur Rahaman}\textsuperscript{100} (2001) informatively highlighted and concluded that there is also a lot of potential for the next wave of communication services based on Wi-Fi, if regulatory obstacles can be overcome.

\begin{flushright}


\end{flushright}
Sinha A\textsuperscript{101} (2005) in his paper attempted to look at an ideal dispute settlement mechanism in the telecom sector.

\textbf{Sandeep Dikshit} \textsuperscript{102} (2006) in his research article explained policy boost to mobile race in the telecom sector and the hike of Foreign Direct Investment (FDI) ceiling to 74 percent from 49 percent in February 2004 and further he portrayed the spurt in mobile phones in view of the NTP 1999 which infused more competition in the sector.


\textbf{Singh} stated \textsuperscript{104} India was late comer in the global mobile phone expansion, but it is now the world’s faster growing telecom market. Monthly wireless subscriber additions have accelerated from two million a month in 2003-04 and 2004-05 to three million subscribers a month in 2005 – 06, and more than 6 million subscribers in September


\textsuperscript{102} Telecom policy boost to mobile race, The Hindu Survey of Indian Industry, 2006, pp 177-179.

\textsuperscript{103} Competition policy in Telecommunications: The case of India, A case study presented to the International Telecommunication Union, Geneva.

\textsuperscript{104} Singh N.K., Atale of two teledensities, The Financial Express, Saturday, November 04, 2006.
of this year. Overall teledensity – fixed and mobile stands at just over 13 phones per 100 in 2006 compared to around 3 per cent in 1999. Szyperski & Loebbecke\textsuperscript{105} (1999) wrote that the increasing economic importance and benefits of telecommunications firms motivated many management scholars (especially marketing experts) to devote attention to this sector. Sridhar\textsuperscript{106} 2000 pointed out that countries such as India, set upper limit on Foreign Direct Investment and cite security concerns for restricting the flow of foreign investment in the telecom sector. Foreign investors also are reluctant to invest when telecom policies are not transparent and stable and suggested that the policymakers and regulators should promote a conducive climate for foreign investment so that the huge capital investment required for building telecom infrastructure can be met. Shanthi\textsuperscript{107} (2005) threw light on the telecommunications market of India – post privatization. The author provides a predictive churn model for telecom segment, to allow a qualitative insight for understanding the structure and methodology of churn management in the Indian telecom sector, and also discusses the level of applicability of such models in the Indian context. Justice S.S Sodhi,\textsuperscript{108} rightly pointed out that credible regulators required credible government policy.

\begin{flushright}
\textsuperscript{108} Justice S.S. Sodhi, Telecom Policy Initiatives – The Road Ahead, 8th August, IIM, Ahmedabad.
\end{flushright}
Singh\textsuperscript{109} (2002), stated that it would probably be a good idea to use number of service providers instead of a dummy for denoting market structure. Further, license fees and interconnect agreements affect telecom penetration and are important especially in the context of developing economies.

Telecom Regulatory Authority of India\textsuperscript{110} (2006) in its paper narrated the TRAI's recommendations on the methodology for allotment of spectrum for 3G services and its pricing aspects and observed that India stands at the threshold of future technology, which offers an opportunity to extend telecom services including triple play (voice data and entertainment) to all its citizens.


\textsuperscript{111} Regulation and Competition: Emerging Issues in an India Perspective, Centre on Regulation and Competition, working paper series, paper 39, University of Manchester, October 2003.
Tan Min-Liang\cite{112} (2001) predicted that 21\textsuperscript{st} century information society calls for a converged regulatory approach to traditional telecommunications, mobile telephony and the Internet. The author considered nine parameters for the research purpose Intellectual property Rights (IPT) of content for mobile transmission, content filtering, electronic transmissions, cyber stalking, wiretapping, database privacy, electronic evidence, wireless Fidelity (Wi-Fi) and Voice over Internet Protocol (VOIP).

Tecor Jha\cite{113} (2008), in his study analyzed that it is the youth which is the real growth driver of the telecom industry in India and attempted to give a snapshot of how frequently young people use their mobile phones for several embodied functions of the cell phones. Data was collected from a sample of 208 mobile phone owners, aged between 20 and 29. The study sheds light on how gender, monthly voucher amount and years of owning mobile phones influenced the usage pattern of this device.

The teledensity in India in 1948 was 0.02 and 1.94 in 1998. In fifty years, telecom has recorded 1.92 percent growth\cite{114}.

\begin{thebibliography}{1}
\bibitem{112} Tan Min-Liang, "Legal issues in the internet and Mobile arenas – Asia Pacific roundup", article as appeared in Asia unplugged compilation book edited by Madan Mohan Road and Lunita Mendoza, Response books, New Delhi, 2005.
\bibitem{113} Tecor Jha, "Understanding Mobile Phone Usage Pattern among College-Goers", 2008 (http://www.emeraldinsight.com/Insight/viewContentItem.do?sessionId=2086527F0757A565F9A6C8AC8800F658?contentType=Book&hdAction=lnkhtml&contentId=1760544&history=true) [Viewed 7/4/09]
\bibitem{114} TRAI’s study paper on indicators of Telecom Growth study paper no. 2 New Delhi, 2005.
\end{thebibliography}
The term ‘Telecommunication’ in International Telecommunications Union (ITU) parlance covers a very wide variety of services such as sound and television broadcasting, space communications, aeronautical and maritime mobile communications, radio location and radio-navigation systems, radio astronomy, meteorological aids and services, radio amateurs, etc. besides the public telecommunications services115.

Turel and Serenko116 (2006) investigated customer satisfaction with mobiles services in Canada and reported that perceived quality and perceived value are the key factors influencing satisfaction with mobile services. Customer care is reported to be negatively related to customer satisfaction, which means that a more satisfied customer is less prone to complain.

Turel and Serenko117 (2006) in their investigation of mobile services in Canada suggested that the degree of perceived value is a key factor affecting customer satisfaction.

Times of India118 reported that if India’s telecom boom is to last, the country has to come with a clear policy on allocating radio frequencies among rival telecom companies.

117. Loc.Cit
118. Editorial Article, Times of India, 6 October, 2006.
Vittal N119 (2001) judiciously identifies four engines, which are driving the telecom reform not only in India but also in the world viz, technology, political will, regulatory activism and market dynamics.

Vats. R.M.120 (2002) in his book lists out the grievances faced by the customer in telecom services with corroboration of evidence in real life situations such as receiving inflated bills, disconnection of all telephones for non payment of dues of one telephone, telephone remaining dead for an inexplicably long time, the service provider not providing bill but disconnects telephone for non-payment, name missing from telephone directory and telephone is not shifted to the new address despite repeated requests.

Vijay K Garg121 (2005) in his book explained all about how to maximize the power of CDMA, migrate the existing systems to the newest standards and prepare for smooth transition to features yet to come.


119. Challenges of Limited Mobility Communication for India, Paper presented in the National Seminar by ASSOCHAM on 16.05.2001, New Delhi, 2001
120. Law relating to Telephones, 2e, Universal Law Publishing Company Private Limited, Delhi, 2002.
121. IS-95 CDMA And cdma 2000- Cellular – The sections on voice / PCS systems Implementation, Pearson Education branch, 482 F.I.E. Patparganj, Delhi, 2005.
Vishal Sethi in his book explained the key reform measures undertaken in the telecom sector in India. He examined the rationale, contents and impact of various telecom polices, the role of regulatory bodies and the investment climate for the sector.

William melody et al (2005) in their paper highlighted that the primary forces driving the transformation of national, regional and global economies are dramatic changes in technologies, policies and markets.

Wilfert (1999); Gerpott (1998); and Booz. Allen and Hamilton (1995) pointed out that marketing strategies are very important in telecommunications services because once customers have subscribed to a particular telecommunications service provider, their long-term link with this provider is of greater importance to the success of the company.
Weiner (1980, and 1985); and Folkes (1984) proposed the attribution theory which stated that when a customer purchases a product or service, if the consumption is below expectation, the customer is convinced that the supplier causes the dissatisfaction, the complaining customer is focused on restoring justice and the satisfaction outcome is driven by perceived fairness of the outcome of complaining.

Westbrook and Reilly (1983) proposed the value-percept theory, which defines satisfaction as an emotional response caused by a cognitive-evaluative process, which is the comparison of the product or service to one's values rather than an expectation. So, satisfaction is a discrepancy between the observed and the desired.

William and Bertsch (1992) reported that the achievement of a strong customer satisfaction is closely related to the understanding customer needs and expectations.

Yi (1990) dealt in his study with the pre-purchase expectations about anticipated performance and compared against expectations and actual satisfactions.


Zeithaml\textsuperscript{130} (1988) found out that customers who perceive that they received value for money were more satisfied than customers who did not perceive that they received value for money.