CHAPTER 1

INTRODUCTION

This chapter presents the background of the study, Research problem, Research objectives, development of hypothesis, deliverables of the study, Scope of research, Limitations of the Study and Structure of the thesis. An overview of mobile communication sector in India is also provided in this chapter.

1.1 BACKGROUND OF THE STUDY

India has become one of the fastest growing economies in the world over the last two decades. In fact, the commendable performance of the Indian economy has placed Indian economy in Goldman Sachs BRICS as it could be one of the four most dominant economies by the year 2050. One of the striking aspects of India’s recent growth has been the dynamism of the service sector. In line with the global trend the service sector in India continues to move on the higher growth trajectory to emerge as the leading service hub of the world. As India surges forward as one of the fastest growing economies in the world, its vibrant service sector is fast evolving as one or the most spectacular byproducts of ongoing resurgence in the country’s economic growth.

Over the years, India’s GDP has shown substantial growth and this growth has been contributed by a strong growth in the Services Sector. IT and Telecom Sector have made substantial contribution to the growth of the economy. The Indian mobile market has undergone a revolutionary change over the past few years to become one of the leading
mobile markets on the global map. The Indian telecommunication sector in India is the third largest sector across the globe and the second largest among the emerging economies of Asia. This rapid growth has been possible due to various proactive and positive decisions of the Government and contribution of both the public and the private sector. The telecom industry has enjoyed a significant upswing and is presently on a high-speed growth path, enjoying a growth rate of approximately 45% pa, among the highest in the world. This growth in the telecom sector, facilitated by liberal policies of the Government has played a crucial role in attracting FDI in India.

The current technological advancements have caused a paradigm shift in the telecommunications sector. The advent of 3G in India has brought with it a host of expectations not only by consumers but also service providers alike. As if this wasn't enough, Mobile Number Portability (MNP), which has been launched nationally, has further fueled the already strong wars between operators, cut-throat competition and intense tariff wars have had a negative impact on the revenue of players. This in turn has increased consumer churn rate and the quality of service provided by operators plays a major role in withstanding the challenge of delivering customer satisfaction and changing customer loyalty. This paradigm shift has led to growing emphasis on initiatives that aim at ensuring customer satisfaction and retention. Customer’s feelings about their total experience with an organization form the attitudes that drive their future behavior. Consequently companies cannot manage this process without a complete understanding of these feelings and attitudes. Consulting customer is the only way of producing this level of understanding. Marketers are increasingly ensuring their strategies are customer–centric and extend endeavors towards not only acquiring new customers but also retain
the existing ones. It seems obvious that a major driver for change for marketers is their
customers. If marketers are not listening to what customers want, they are ignoring one of
the most significant sources of information. Customers are the one constant that all
business need. Successful user experiences deliver a firm’s value proposition in the most
appropriate way. In the today's business scenario, as competition is tough and ever
increasing, it is the service sector which has shown a tremendous growth, particularly in
mobile phone service sector.

1.2 RESEARCH PROBLEM AND RESEARCH OBJECTIVES

Based on the problem discussion the research problem is formulated as follows:
To understand the most important dimensions of service quality that affect customer
satisfaction among mobile service users in Bangalore

RESEARCH PROBLEM

Since the liberalization of India in 1991, the telecom sector has witnessed drastic
changes. The privatization in manufacturing of telecom equipments and telecom
networks has led to rapid growth and development of telecom sector. The positive
changes introduced after the adoption of the liberalization policy has led to the expansion
of mobile service sector with new players entering the market. Challenges such as
intensifying market competition and falling ARPU (average revenue per user) has led to
increased network congestion and consequent decline in quality of service (QOS). The
mobile telecommunication market in India has now reached its maturity stage, and as the
net return on investments in mature markets could be much higher for retention strategies
than for strategies to attract new customers, particularly for companies with an established customer base. Unlike other services, mobile telecommunication services are relatively homogeneous in nature because of technological standards and regulations. Service providers strive to provide innovative service offerings in the hope that consumers perceive their services as superior and leading in the mobile service sector.

TRAI report on QOS (Quality of Service) and Customer Satisfaction Survey of Mobile Services in Karnataka, 2008 explicitly states customer satisfaction and its relation to customer retention. The survey reveals that the network performance, reliability, availability and supplementary services are areas where service providers can distinguish their service and survive amid increasing competition in the industry. The survey summarizes that there is a growing need for Service providers to continuously upgrade the QOS (Quality of Service) provided to customers to survive in the coming years. Although there has been an increase in number of service providers for mobile services over the years, there is a growing gap in service delivery and customer service expectations.

This problem of matching customer expectation levels for service quality has to be seriously addressed by service providers. There is a need for service providers to revolve their marketing strategies around customer satisfaction and retention. The concept of customer satisfaction occupies a central position in marketing thought and practice. Therefore an understanding of the reasons influencing consumer preferences and satisfaction levels with respect to mobile service providers will help them increase their mobile subscriber’s base.
In view of the above, the main problem of this study is “Are customers satisfied with the service quality delivered by mobile service providers in Bangalore” the above identified research problem, the main purpose of this study is to understand the most important dimensions of service quality that affect customer satisfaction among mobile service users in Bangalore. Growth is the major aim for any company. With the challenging market trends and growing competition, it has become essential for the technology-driven companies to identify their core competencies and have a competitive edge over others. A comparative analysis of quality of service provided by the leading telecom service providers in Bangalore such as Bharti Airtel, Docomo, Reliance, Vodafone, Spice BSNL and Others-MTS, Uninor and Aircel has been presented in this thesis.

**RESEARCH OBJECTIVES**

1. Analyze factors influencing the choice of service providers by mobile users

2. To analyze switching intention among mobile service users

3. To know the relationship between service quality dimensions and customer satisfaction towards mobile service providers

4. To know the relationship between service quality dimensions and recommendation of service provider to other mobile service users.

5. To know the significant difference in service quality dimensions w.r.t mobile service provider brands

6. To know the impact of service quality on customer satisfaction
7. To know the impact of service quality on recommendation of service

8. Provide suggestions that help service provider retain and increase their customer base and offer services that are valuable in influencing user satisfaction and retention levels

1.3 HYPOTHESIS DEVELOPMENT

With regard to the objectives mentioned, the following null hypotheses are developed:

Ho: There is no dependence between switching of service providers and current choice of the service provider of respondents.

Ho: There is no dependency between switching of current users based on MNP and choice of the service provider of the respondents.

Ho: There is no relationship between perceived service quality and overall satisfaction among the service users.

Ho: There is no relationship between perceived service quality and recommendation for service among the service users.

Ho: There is no linear relationship existing between service quality dimensions and overall satisfaction among the service users.

Ho: There is no linear relationship existing between recommendation for service and overall satisfaction among the service users.
1.4 DELIVERABLES OF THE STUDY

The study is immensely significant for marketing practitioners, especially mobile service providers in Bangalore city. The research aims at providing an in-depth and holistic overview of how customer forms and experience their satisfaction towards services offered by mobile service providers. This study is found to be relevant due to the following reasons:

1. The urban teledensity, crossing 100%, the market has been showing signs of maturity, especially in the case of the uptake of voice based services. The urban markets like Bangalore, may continue to add more users, however usage of multiple SIMs and swelling competition continues to exert immense pressure on operator margins. In this changing landscape the winners will be those mobile service providers that understand customer needs and establishing a competitive edge based on better service delivery. Emphasis on technical product differentiation alone will not help .Therefore this studying covering mobile service users in Bangalore will provide an insight on the how service quality dimensions can be prioritized to provide better quality service and thereby retain customers in this competitive scenario.

2. According to the Telecom Regulatory Authority of India (Trai), the total number of subscribers opting for mobile number portability (MNP) has risen to 59.31 million, with Karnataka receiving the maximum number of 7.2 million requests till the end of July. Since Karnataka leads the list for subscribers opting for MNP, a study covering Bangalore region may provide valuable information on understanding of whether with the implementation of MNP mobile service users in Bangalore intend to switch over to
other service providers or continue loyalty with their current service providers will be done. The study also examines the reasons associated with user intention to adopt MNP as it would help in working on the inadequacies of the service delivery by major mobile service providers in Bangalore.

3. The study uses the Gronroos’ Model to analyse the impact of service quality dimensions on mobile service user satisfaction and recommendation in Bangalore City. The Gronroos’ model proposes that service quality consists of technical and functional dimensions, and that a service organization’s image functions as a filter in the perception of service quality (Gi-Du Kang and Jeffrey James 2004). The applicability and suitability of the Gronroos’ model to measure service quality in the context of mobile services has been confirmed in earlier studies (Simon Gyasi Nimako 2009). The results would help mobile service providers in Bangalore to assess their services on the service quality dimensions and provide better services.

1.5 SCOPE OF THE RESEARCH

The scope of the study is basically limited to respondents in the city of Bangalore using mobile services. The research determines the customer satisfaction and service quality factors that contribute to the service of mobile service providers. This study aims at studying the present market scenario and so all the service providers were taken to measure the satisfaction of customer.
1.6 RESEARCH LIMITATION

- The market of Telecommunication is too vast and it is not possible to cover each and every user of mobile service in the available span of time. The finance and material resources needed for a larger sample size for this study is inadequate. This did not allow the use of a larger sample which is a pre-requisite for reliability of surveys that aim at generalizing findings and making inferences from a sample about the population of study. Therefore there is no assurance that the sample is a representation of the large set of respondents who are mobile users.

- Before conducting the research, the questions were designed to be simple and concise so that all respondents would clearly understand the exact context of each question. However, there is no possible way in which it can be ensured that the respondents clearly understood the context of the questions asked. Therefore given these considerations, there is a possibility that respondents may have provided answers that have deviated from reality.

- The study limits its applicability to Bangalore city and can be extended only to markets having similar demographic, geographic and socioeconomic characteristics.
1.7 STRUCTURE OF THESIS

The study is organized into five chapters.

- **Chapter one** is the introductory chapter that covers Background of the study, Research Problem and Research objectives, Hypothesis Development, Deliverables of the study, Scope of the research, Research Limitation and Structure of the thesis. This chapter also includes a snapshot of Indian Mobile telecommunications market.

- **Chapter two** is Review of literature. The chapter also provides an insight into previous research studies undertaken in Global and Indian context. This would benefit in identifying the research gaps and the methodologies used. The chapter also provides a brief overview of the concepts and theoretical framework.

- **Chapter three** is Research Methodology. It covers introduction, Research Design, Research Framework, Hypothesis, Variable measurement, Population and sample, Data collection technique and data analysis techniques.

- **Chapter four** is findings and data analysis. In this chapter the results of the data analysis are presented.

- **Chapter five** this is the outcome of the research. It includes the summary, conclusion and implications.
1.8 SNAPSHOT OF INDIAN MOBILE TELECOMMUNICATIONS MARKET

1.8.1 GROWTH AND DEVELOPMENT OF INDIA’S TELECOM INDUSTRY IN INDIA

Indian telecom sector is more than 165 years old. Telecommunications was first introduced in India in 1851 when the first operational land lines were laid by the government near Kolkata (then Calcutta), although telephone services were formally introduced in India much later in 1881. Further, in 1883, telephone services were merged with the postal system. In 1947, after India attained independence, all foreign telecommunication companies were nationalised to form the Posts, Telephone and Telegraph (PTT), a body that was governed by the Ministry of Communication. The Indian telecom sector was entirely under government ownership until 1984, when the private sector was allowed in telecommunication equipment manufacturing only. The government concertized its earlier efforts towards developing R&D in the sector by setting up an autonomous body – Centre for Development of Telematics (C-DOT) in 1984 to develop state-of-the-art telecommunication technology to meet the growing needs of the Indian telecommunication network. The actual evolution of the industry started after the Government separated the Department of Post and Telegraph in 1985 by setting up the Department of Posts and the Department of Telecommunications (DoT).
The entire evolution of the telecom industry can be classified into three distinct phases.

- Phase I - Pre Liberalisation Era (1980-89)
- Phase II - Post Liberalisation Era (1990-99)
- Phase III - Post 2000

Until the late 90s the Government of India held a monopoly on all types of communications – as a result of the Telegraph Act of 1885. As mentioned earlier in the chapter, until the industry was liberalised in the early nineties, it was a heavily government-controlled and small-sized market, Government policies have played a key role in shaping the structure and size of the Telecom industry in India. As a result, the Indian telecom market is one of the most liberalised market in the world with private participation in almost all of its segments. The New Telecom Policy (NTP-99) provided the much needed impetus to the growth of this industry and set the trend for liberalisation in the industry.

**Table : 1.8.1 Evolution of the Indian Telecom Industry-Important Milestones**

<table>
<thead>
<tr>
<th>Year</th>
<th>Milestones</th>
</tr>
</thead>
<tbody>
<tr>
<td>1851</td>
<td>First operational land lines were laid by the government near Calcutta (Seat of British power)</td>
</tr>
<tr>
<td>1881</td>
<td>Telephone service introduced in India</td>
</tr>
<tr>
<td>1883</td>
<td>Merger with the postal system</td>
</tr>
<tr>
<td>Year</td>
<td>Event</td>
</tr>
<tr>
<td>------</td>
<td>-------</td>
</tr>
<tr>
<td>1923</td>
<td>Formation of Indian Radio Telegraph Company (IRT)</td>
</tr>
<tr>
<td>1932</td>
<td>Merger of ETC and IRT into the Indian Radio and Cable Communication Company (IRCC)</td>
</tr>
<tr>
<td>1947</td>
<td>Nationalization of all foreign telecommunication companies to form The Posts, Telephone and Telegraph (PTT), a monopoly run by the government's Ministry of Communications</td>
</tr>
<tr>
<td>1985</td>
<td>Department of Telecommunications (DOT) established, an exclusive provider of domestic and long-distance service that would be its own regulator (separate from the postal system)</td>
</tr>
<tr>
<td>1986</td>
<td>Conversion of DOT into two wholly government-owned companies: The Videsh Sanchar Nigam Limited (VSNL) for international Telecommunications and Mahanagar Telephone Nigam Limited (MTNL) for service in metropolitan areas.</td>
</tr>
<tr>
<td>1992</td>
<td>Telecommunication sector liberalised</td>
</tr>
<tr>
<td>1994</td>
<td>Licence for Providing cellular mobile services granted by Govt of India. Initially cellular mobile services were duopoly</td>
</tr>
<tr>
<td>1995</td>
<td>Govt of India opened 19 more telecom circles and issued mobile licences</td>
</tr>
<tr>
<td>1997</td>
<td>Telecom Regulatory Authority of India created</td>
</tr>
<tr>
<td>1999</td>
<td>National Telecom Policy announced by GOI to speed up development of telecom sector.</td>
</tr>
<tr>
<td>2005</td>
<td>All telcom sector under DoT was handed over to public sector undertaking BSNL (except Delhi &amp; Mumbai under MTNL)</td>
</tr>
<tr>
<td>2007</td>
<td>167 mobile phone subscribers in India (125 Million GSM and 42 Million CDMA)</td>
</tr>
<tr>
<td>2008</td>
<td>3G mobile service launched by MTNL in New Delhi</td>
</tr>
<tr>
<td>2010</td>
<td>Indian Govt earns Rs.67,719 crore from 3G auction.</td>
</tr>
<tr>
<td>2011</td>
<td>Launch of MNP Mobile Number Portability added yet another dimension to what was already an intensely competitive market.</td>
</tr>
</tbody>
</table>

*Source: TRAI*
KEY HIGHLIGHTS OF THE YEAR 2012-2013

- The year 2012 saw a significant ‘correction’ in India’s mobile market, as operators removed inactive subscribers from their databases.

- By end-2012 the country had 865 million mobile subscribers, for a penetration of 69%.

- This was down from 895 million (penetration 72%) at end-2011.

- By April 2013 there were 867 million subscribers as the market finally returned to positive growth.

- GSM had further strengthened its position as the dominant mobile technology over CDMA with 91% of the mobile subscriber market coming into 2013.

- The number of fixed broadband internet subscribers was steadily increasing, reaching 15 million for a penetration of just over 1% by population by the start of 2013.

- DSL continued to hold the major portion of the local fixed broadband market: 85% by end-2012.

- The market had witnessed a large scale roll-out of 3G networks by operators across the country following the long-delayed licensing.
• However, 3G had not immediately delivered the expected boost to the market in terms of large scale adoption of mobile data services.

• Nevertheless, mobile broadband was expanding rapidly and had quickly been established as a key form of broadband access.

• Following the Supreme Court decision cancelling operator licences in February 2012, the re-auction of the vacant spectrum took place in late 2012 and early 2013.

• The process was generally seen as a failure for the government as the auctions failed to attract the level of bids and bidders.

• The licence cancellations and subsequent re-auctioning of spectrum had been a major upheaval for India’s telecom market place.

1.8.2 CELLULAR INDUSTRY IN INDIA

Cellular services are a part of the telecommunication sector of India. It was launched in 1999 with the adoption of New National Telecom Policy by Telecom regulatory authority of India (TRAI). Cellular services are further divided into two categories, namely GSM (Global System for Mobile Communications) and CDMA (Code Division Multiple Access).
Table 1.8.2
HIGHLIGHTS ON TELECOM SUBSCRIPTION DATA AS ON 31ST MAY 2013

<table>
<thead>
<tr>
<th>Particulars</th>
<th>Wireless</th>
<th>Wireline</th>
<th>Total (Wireless + Wireline)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Subscribers (Millions)</td>
<td>870.20</td>
<td>29.85</td>
<td>900.05</td>
</tr>
<tr>
<td>Total Net Monthly Addition (Millions)</td>
<td>3.18</td>
<td>-0.14</td>
<td>3.04</td>
</tr>
<tr>
<td>Monthly Growth (%)</td>
<td>0.37%</td>
<td>-0.47%</td>
<td>0.34%</td>
</tr>
<tr>
<td>Urban Subscribers ( Millions )</td>
<td>522.01</td>
<td>23.29</td>
<td>545.30</td>
</tr>
<tr>
<td>Urban Subscribers Net Monthly Addition ( Millions )</td>
<td>0.83</td>
<td>-0.08</td>
<td>0.75</td>
</tr>
<tr>
<td>Monthly Growth (%)</td>
<td>0.16%</td>
<td>-0.34%</td>
<td>0.14%</td>
</tr>
<tr>
<td>Rural Subscribers ( Millions )</td>
<td>348.19</td>
<td>6.56</td>
<td>354.75</td>
</tr>
<tr>
<td>Rural Subscribers Net Monthly Addition ( Millions )</td>
<td>2.34</td>
<td>-0.06</td>
<td>2.28</td>
</tr>
<tr>
<td>Monthly Growth (%)</td>
<td>0.68%</td>
<td>-0.93%</td>
<td>0.65%</td>
</tr>
<tr>
<td>Overall Teledensity</td>
<td>70.9</td>
<td>2.43</td>
<td>73.33</td>
</tr>
<tr>
<td>Urban Teledensity</td>
<td>139.32</td>
<td>6.22</td>
<td>145.54</td>
</tr>
<tr>
<td>Rural Teledensity</td>
<td>40.83</td>
<td>0.77</td>
<td>41.60</td>
</tr>
<tr>
<td>Share of Urban Subscribers</td>
<td>59.99%</td>
<td>78.03%</td>
<td>60.59%</td>
</tr>
<tr>
<td>Share of Rural Subscribers</td>
<td>40.01%</td>
<td>21.97%</td>
<td>39.41%</td>
</tr>
</tbody>
</table>

Source TRAI - Highlights of Telecom Subscription Data as of 31st May 2013

Highlights of Telecom Subscription Data as on 31st May 2013. According to latest report released by Telecom Regulatory Authority of India (TRAI), India has a total of 870.20 million Mobile Subscribers (counting both GSM and CDMA subscribers) as of 31st May 2013 with a 0.37% monthly growth rate. The total number of telecom subscribers (both Wireless and Wireline) in India has been increased to 900.05 million with net addition of only 3.04 million subscribers in the current period.
Total wireless subscriber base increased from 867.02 million in April 2013 to 870.20 million at the end of May 2013, registering a monthly growth of 0.37%. The share of urban wireless subscribers has decreased from 60.11% to 59.99% where as share of rural wireless subscribers has increased from 39.89% to 40.01%. The overall wireless Teledensity in India has reached 70.90 from 70.71 of previous month.

Wireless subscription in urban areas increased from 521.18 million in April 2013 to 522.01 million at the end of May 2013. The wireless subscription in rural areas increased from 345.85 million to 348.19 million during the same period. The urban wireless Teledensity has marginally decreased from 139.33 to 139.32 and rural Teledensity has increased from 40.59 to 40.83.

Figure 1.8.2.1  Chart showing Total Wireless Subscribers & Wireless Teledensity as on 31st May, 2013

Source TRAI
Private operators hold 88.18% of the wireless market share (based on subscriber base) where as BSNL and MTNL, the two PSU operators hold only 11.82% market share. The graphical presentations of market shares and shares in net additions of all the service providers during the month of May, 2013 are given below:

![Chart showing Service Provider wise Market Share as on 31st May, 2013](chart)

*Figure 1.8.2.2 Chart showing Service Provider wise Market Share as on 31st May, 2013*

*Source : TRAI*
During 2006–12, wireless subscriptions increased at a CAGR of 34.0 per cent to 867 Million.

The subscriber base declined slightly due to disconnection of inactive mobile subscribers.

Source: TRAI
Figure 1.8.2.4 Graph showing Wireless Teledensity Growth

Source: TRAI

Notes: Teledensity - The number of telephone lines for every 100 people in a country, GSM - Global System for Mobile Communications, CDMA - Code Division Multiple Access; 2013* - Data as of March 2013

The mobile segment’s teledensity surged 5.3x from 13.5 per cent in 2006 to 70.90 per cent in 2013

GSM services continue to dominate the wireless market with an 88.1 per cent share (June 2012); CDMA accounts for the remaining 10.9 per cent
1.8.3 MAJOR PLAYERS IN INDIAN MOBILE TELECOMMUNICATION INDUSTRY

The major cellular providers operating at national level are Bharti Airtel with a market share of 21.79%, Vodafone with a market share of 17.78%, Reliance Communications with a market share of 14.35%, Idea with a market share of 14.22%, BSNL with a market share of 11.27%. Reliance and Tata Indicom operate on CDMA technology and others on GSM. Apart from these, there are regional GSM operators like Spice in Karnataka, Aircel in Tamilnadu and MTNL’s Dolphin in Mumbai etc.

**Bharti Airtel**

BHARTI AIRTEL is the largest wireless service provider in our country with operations in 20 countries across Asia and Africa. Headquartered in New Delhi, India, the company ranks amongst the top 4 mobile service providers globally in terms of subscribers. It has presence in all the 22 telecom circles in India and operations in Srilanka, Bangladesh, Africa and Lakshadweep. The company provides its wireless services under the GSM (Global System for Mobile Communication) technology. Its product offerings include 2G, 3G and 4G wireless services. It also offers broadband, IPTV (Internet Protocol Television) & Digital TV services. The company had an aggregate of 269 million subscribers as of March 2013. It offers its telecom services under the "airtel" brand, and is headed by Sunil Bharti Mittal. Bharti Airtel is the first Indian telecom service provider to achieve Cisco Gold Certification. Airtel is credited with pioneering the business
strategy of outsourcing all of its business operations except marketing, sales and finance and building the 'minutes factory' model of low cost and high volumes. Bharti Airtel gives an integrated suite of telecom solutions to its enterprise customers, in addition to providing long distance connectivity both nationally and internationally. All these services are rendered under a unified brand ‘Airtel’. The company also deploys, owns and manages passive infrastructure pertaining to telecom operations under its subsidiary Bharti Infratel Ltd that also owns 42% of Indus Towers Ltd.

VODAFONE INDIA, formerly Vodafone Essar and Hutchison Essar, is the second largest mobile network operator in India after Airtel based on subscriber base. It is based in Mumbai, Maharashtra and which operates nationally. It has approximately 154.68 million customers as of May 2013.

On July 2011, Vodafone Group agreed terms for the buy-out of its partner Essar from its Indian mobile phone business. The UK firm paid $5.46 billion to its Indian counterpart to take Essar out of its 33% stake in the Indian subsidiary. It will leave Vodafone owning 74% of the Indian business, while the other 26% will be owned by Indian investors, in compliance with Indian law. Vodafone India provides 2.75G services based on 900 MHz and 1800 MHz digital GSM technology. Vodafone India launched 3G services in the country in the January-March quarter of 2011 and plans to spend up to $500 million within two years on its 3G networks.
RELIANCE COMMUNICATIONS LTD. (commonly called RCOM) is an Indian broadband and telecommunications company headquartered in Navi Mumbai, India. It is the third largest mobile network operator in India after Airtel and Vodafone based on subscriber base. It has approximately 124.89 million customers as of May 2013.

RCOM is the world's 16th largest mobile phone operator with over 150 million subscribers. Established on 2004, a subsidiary of the Reliance Group. The company has five segments: Wireless segment includes wireless operations of the company; broadband segment includes broadband operations of the company; Global segment include national long distance and international long distance operations of the company and the wholesale operations of its subsidiaries; Investment segment includes investment activities of the Group companies, and Other segment consists of the customer care activities and direct-to-home (DTH) activities.

With a subscriber base of 124.89 million and a 14.35% market share, Reliance Communications (RCOM) is the third largest mobile service provider in the country. It provides both GSM- and CDMA-based mobile telecom services. On the CDMA platform, it offers broadband services in more than 500. RCOM was the first operator to launch 3G services in India. It launched services in Chandigarh, in a record time of 100 days of receiving 3G spectrum. To date, RCOM has rolled out 3G services in all circles where it won 3G spectrum, covering more than 330 towns.
IDEA CELLULAR, usually referred to as Idea, is an Indian mobile network operators based in Mumbai, India. Idea is the 4th largest wireless carrier in Indian market with over 123.75 million customers and also provides broadband internet to its customers. As a leader in Value Added Services, Innovation is central to IDEA's VAS Factory. It is the first cellular company to launch music messaging with 'Cellular Jockey', 'Background Tones', 'Group Talk', a voice portal with 'Say IDEA' and a complete suite of Mobile Email Services.

Idea Cellular is a wireless telephony company operating in various states in India. It initially started in 1995 as a joint venture between the Tatas, Aditya Birla Group and AT&T by merging Tata Cellular and Birla AT&T Communications. Initially having a very limited footprint in the GSM arena, the acquisition of Escotel in 2004 gave Idea a truly pan-India presence covering Maharashtra (excluding Mumbai), Goa, Gujarat, Andhra Pradesh, Madhya Pradesh, Chattisgarh, Uttar Pradesh (East and West), Haryana, Kerala, Rajasthan and Delhi (inclusive of NCR).

The company has its retail outlets under the "Idea n’ U" banner. The company has also been the first to offer flexible tariff plans for prepaid customers. It also offers GPRS services in urban areas. Idea's subscriber base as at the end of May 2013 is 14.22% of the total mobile connections in India.
BHARAT SANCHAR NIGAM LIMITED (known as BSNL, India Communications Corporation Limited) is a public sector communications company in India. It has the status of Mini-ratna - a status assigned to reputed Public Sector companies in India.

It was incorporated on 15 September 2000. It took over the business of providing of telecom services and network management from the erstwhile Central Government Departments of Telecom Services (DTS) and Telecom Operations (DTO), with effect from 1 October 2000 on going concern basis. It is the largest provider of fixed telephony and fourth largest mobile telephony provider in India, and is also a provider of broadband services. However, in recent years the company's revenue and market share plunged into heavy losses due to intense competition in the Indian telecommunications sector.

BSNL is India's oldest and largest Communication Service Provider (CSP). It has footprints throughout India except for the metropolitan cities of Mumbai and New Delhi which are managed by MTNL. It provides a comprehensive range of telecom services in India: Wireline, CDMA mobile, GSM Mobile, Internet, Broadband, Carrier Service, MPLS-VPN, VSAT, VoIP Services, IN Services etc.
TATA TELESERVICES LIMITED (TTSL) is an Indian broadband and telecommunications service provider based in Mumbai, Maharashtra, India. It is a subsidiary of the Tata Group, an Indian conglomerate. It operates under the brand name Tata DoCoMo in various telecom circles of India.

In November 2008, Japanese telecom giant NTT Docomo picked up a 26 per cent equity stake in Tata Docomo a subsidiary of Tata teleservies for about ₹130.7 billion (US$2.0 billion) or an enterprise value of ₹502.69 billion (US$7.7 billion).[2]

In February 2008, TTSL announced that it would provide CDMA mobile services targeted towards the youth, in association with the Virgin Group on a franchisee model basis.

Tata Teleservices provides mobile services under the following brand names:

- Tata DoCoMo (CDMA & GSM mobile operator, wireless broadband)
- Virgin Mobile (CDMA & GSM mobile operator)
- T24 Mobile (GSM mobile operator)

The company's retail business has around 3,000 outlets nationally, comprising 600 TTSL owned stores and around 2,500 stores in the Franchisee format. Tata Indicom (now
known as Tata DoCoMo CDMA) already covers the top 700 towns in India in terms of population through Tata DoCoMo CDMA Exclusive Stores.

Tata Docomo also maintains an online portal for its customers i-choose where the customers can buy Tata DoCoMo CDMA post-paid connections and prepaid recharge vouchers with an upfront commitment of activation and delivery of the handset within 72 hours.

Tata Teleservices, in October 2007 launched Tata Zone, an infotainment portal on Tata Docomo BREW-enabled mobile phones, in Hindi. This service has applications, pricing details, downloads and browsing instructions in Hindi. The rationale behind this was simple: - 66% of all Indians speak Hindi, while less than 5% understand English.

Under its VAS bouquet, TTSL offers services such as News, Games, Faith and Prayers, Ringtones, Streaming TV, Fun Shows, Video Zone, Song Download Express, Cricket, Internet Surfing, Astrology, and Mobile Office among others.

Tata Docomo received licenses to operate GSM services in nineteen telecom circles and was allotted spectrum in eighteen of these circles and launched GSM services on 24 June 2009. It began operations first in South India and currently operates GSM services in eighteen of twenty two telecom circles. Tata DoCoMo CDMA plans to provide m-commerce, mobile advertising and social networking under its VAS offerings.

On 5 November 2010, Tata DOCOMO became the first private sector telecom company to launch 3G services in India. On 20 October 2011, Tata DoCoMo brought its brands - CDMA, GSM, Walky (Fixed Wireless Phone), Photon, INTERNET - under the Tata
Docomo name. All subscribers to these services were migrated to the Docomo brand on 20 October 2011. The companies other brands - Virgin Mobile and T24 - are not part of the rebranding and will retain their names.

**AIRCEL**

**AIRCEL GROUP** is an Indian mobile network operator headquartered in Chennai, which offers voice & data services ranging from postpaid and prepaid plans, 2G and 3G services, Broadband Wireless Access (BWA), Long Term Evolution (LTE) to Value-Added-Services (VAS).

In 2006, Aircel was acquired by Malaysia’s biggest integrated communications service provider Maxis (Maxis Communication Berhard) and is a joint venture with Sindya Securities & Investments Pvt Ltd - Maxis holds 74% equity in the company.

Aircel commenced operations in 1999 by Chinnakannan Sivasankaran and today is the leading mobile operator in Tamil Nadu, Assam, North-East India and Chennai.

It is India’s fifth largest GSM mobile service provider & seventh largest mobile service provider (both GSM and CDMA) with a subscriber base of over 60.35 million, as of May 2013. It has a market share of 6.94% among the GSM operators in the country.

Aircel has also obtained permission from the Department of Telecommunications (DoT) to provide international long distance (ILD) and national long distance (NLD) telephony services. It also has the largest service in Tamil Nadu.
SPICE TELECOM was the brand name of Spice Communications Limited. Spice Telecom is currently operating in the states of Punjab and Karnataka that is in 2 circles of 23 Telecom Circles of India. Spice Communications Limited is now a subsidiary of Mumbai based Idea Cellular Ltd. (an Aditya Birla group company). Idea Cellular owns more than 80% equity in Spice Communications. They plan to improve the coverage, customer friendliness and good service.

Idea Cellular acquired the company from Modi Wellvest and Telekom Malaysia (TMI, now Axiata) in July 2008. Launched over ten years ago, Spice’s cellular services have a customer base of over 4 million as on December 2008 in Punjab and Karnataka.

The market share of Spice had fallen down in Karnataka, after their competitors weaned away many of its customers with good service. In spite of lower tariffs Spice could not regain the market share. Another problem was that being restricted in only two circles the prepaid users (which form majority of mobile phone users in India) had problems getting their phones recharged with prepaid balance when in roaming. The problem was significance in case of states with small areas like Punjab. Now it is hoped that under Idea cellular things at least this problem is sorted.
MOBILE TELESYSTEMS (MTS) also known as Sistema Shyam TeleServices Limited (SSTL), is the Indian subdivision of Russian Mobile TeleSystems telecommunication company headquartered in New Delhi, India. It provides wireless voice, broadband Internet, messaging and data services in India. MTS India is a subsidiary of Russian conglomerate Sistema and operates across India with over 16 million customers as on 2012.

Sistema, the largest public diversified corporation in Russia, acquired a 10% stake in Shyam Telelink for a total cash consideration of US$ 11.4 million at the end of September 2007. Shantanu Telecom along with their partner Sistema had applied for UASL licence in 22 telecom circles of India. In August 2008, they became the first new mobile operator to get a pan-India start-up spectrum to start their mobile service operations in the country. They provide mobile services based on CDMA technology under the brand name MTS India. MTS launched operations in Uttar Pradesh East and West in October 2010.
On 2 February 2012, the Supreme Court of India cancelled 122 licences of 22 mobile operators, including 21 of MTS' 22 licences, in connexion with the 2G spectrum scam. MTS lost all its licences except the one for Rajasthan circle. In the 2013 spectrum auction, MTS won back licences and spectrum in 8 circles - Delhi NCR, Kolkata, Gujarat, Karnataka, Tamil Nadu, Kerala, Uttar Pradesh (West) & West Bengal. SSTL chose not to bid for Mumbai, Maharashtra and Uttar Pradesh (East), which meant that it would have to close operations in those circles.

MTS launched EVDO Rev A based high-speed mobile broadband service, MBlaze, in November 2009 and has seen tremendous market acceptance with over 5,00,000 (As per February 2011 Data) customers in a short span of time. In April 2010, MTS launched MTS TV for MTS MBlaze customers. MTS MBlaze have its coverage in 100+ cities as of February 2011. MTS has also announced pan-India roaming for its users in April–May 2010. MTS also provides MBrowse which is CDMA-1x technology based internet service.

1.8.4 KARNATAKA WIRELESS TELECOM MARKET

- Karnataka is 7th largest wireless telecom market in India accounting for 6.12% of total active subscriber base
- Mobile subscriber base of Karnataka decreased by 5.02% during FY2013 to reach 52.91 million
- Active wireless subscriber base in Karnataka is 83.58% resulting in 44.23 million active mobile users
- Active subscriber base in Karnataka increased by 6.24% during FY2013 compared with national average of 5.86%

### Table : 1.8.4 Karnataka Wireless Telecom 2013

<table>
<thead>
<tr>
<th></th>
<th>2012</th>
<th>2013</th>
<th>Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Subscribers</td>
<td>55713994</td>
<td>52914789</td>
<td>-5.02%</td>
</tr>
<tr>
<td>Active Subscribers(%)</td>
<td>74.72%</td>
<td>83.58%</td>
<td></td>
</tr>
<tr>
<td>Active Subscribers</td>
<td>41629496</td>
<td>44226181</td>
<td>6.24%</td>
</tr>
<tr>
<td>Share of India Subscriber base (Total)</td>
<td>6.06%</td>
<td>6.10%</td>
<td></td>
</tr>
<tr>
<td>Share of India Subscriber base (Active)</td>
<td>6.10%</td>
<td>6.12%</td>
<td></td>
</tr>
<tr>
<td>Rank (Active)</td>
<td>7</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>Total Subscriber Base</td>
<td>919173053</td>
<td>867803583</td>
<td>-5.59%</td>
</tr>
<tr>
<td>Active Subscriber Base</td>
<td>683010479</td>
<td>723008881</td>
<td>5.86%</td>
</tr>
</tbody>
</table>

*Source: TRAI*

Bharti leads with 30.83% share in terms of total subscriber base followed by BSNL (13.46%), Vodafone (12.80%), Reliance (12.73%), Idea (11.72%) and Tata (11.16%) as on May 2013. Airtel’s dominance is such that the gap between market shares of top 2 players (Bharti and BSNL) is 17.37%. Top 5 players accounts for 81.54% of Karnataka’s active mobile subscriber base.
1.8.5 FOREIGN DIRECT INVESTMENTS IN TELECOM SECTOR

Foreign direct investment has been one of the major contributors in the growth of the Indian economy, and therefore, the need for higher FDI is felt across sectors in the Indian economy. The telecom sector has played a crucial role in attracting FDI in India.

The telecom sector requires huge investments for its expansion as it is capital-intensive and FDI plays a vital role in meeting the fund requirements for expansion of the telecom sector. Telecom accounts for almost 10% of the total FDI inflows in the country and has been the third-largest sector to attract FDI in India in the post-liberalization era. The
Indian telecom industry has been an attractive avenue for foreign investors over the years. The relaxation in FDI norms has attracted many foreign telecom majors to the sector. The presence of foreign players has not only encouraged faster infrastructure development and upgradation but also has opened up the domestic industry to foreign competition. The influx of foreign players in the Indian telecom industry has led to capacity creation, and better infrastructure, which in turn has bettered the network quality.

The change in FDI policy that has raised the FDI limit for the sector has made it more attractive for foreign players. In the long run the growth prospects of telecom players that have foreign partners will improve and other players will get new avenues to raise capital.

The last couple of years have witnessed investments of a whooping 8.5 billion dollars in this sector with 550 million dollars being in the form Foreign Direct Investment, more commonly known as FDI. The telecom industry is witnessing a lot of action with global players entrenching themselves firmly in the Indian market. The cumulative FDI inflow from April 2004 to April 2012 in the telecommunication sector amounted to US$ 11,223 million. This makes telecommunication the third-largest sector to attract FDI in India in the post liberalization era. The investment was mainly in handset manufacturing and telecom service providers. India has 100% FDI allowed in the telecom services.
1.8.6 RECENT MERGERS & ACQUISITION DEALS IN THE TELECOM SECTOR

According to figures released by ASSOCHAM, Mergers & Acquisition deals valued at USD 33.83 billion were executed during just the first quarter of financial year 2010, a growth of about 257% over corresponding quarter last year, which registered deals worth USD 9.49 billion (April – June 2009). The Telecom Industry took the
largest pie of M&A activity, accounting for deals worth USD 22.73 billion, which represented 67.19 per cent share in the total valuation of the M & A deals. Such In-bound cross border deals indicate substantial growth exists which is also evident forms the fact that India has been adding more than 10 million subscribers every month. Some of the major deals in recent years are given below.

**TABLE 1.8.6 M & A DEALS IN THE TELECOM SECTOR**

<table>
<thead>
<tr>
<th>ACQUIRER</th>
<th>TARGET</th>
<th>YEAR</th>
<th>VALUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vodafone</td>
<td>Hutchinson Essar</td>
<td>2007</td>
<td>$11.1 billion</td>
</tr>
<tr>
<td>NTT DoCoMo</td>
<td>Tata Teleservices</td>
<td>2008</td>
<td>$2.7 billion</td>
</tr>
<tr>
<td>Telenor ASE</td>
<td>Unitech Wireless</td>
<td>2008</td>
<td>1.36 billion</td>
</tr>
<tr>
<td>Emirates Telecommunications</td>
<td>Swan Telecom</td>
<td>2008</td>
<td>0.9 billion</td>
</tr>
<tr>
<td>Telekom Malaysia</td>
<td>Idea Cellular</td>
<td>2008</td>
<td>Rs.7,294 crore</td>
</tr>
<tr>
<td>Idea Cellular</td>
<td>Spice Telecom</td>
<td>2008</td>
<td>Rs.2,719 crore</td>
</tr>
<tr>
<td>Telenor Asia Pvt. Ltd</td>
<td>Unitech Wireless Ltd</td>
<td>2009</td>
<td>$230.61 million</td>
</tr>
<tr>
<td>Batelco Group</td>
<td>S.Tel.Ltd</td>
<td>2009</td>
<td>$225 million</td>
</tr>
<tr>
<td>Bharti Airtel</td>
<td>MTN</td>
<td>2009</td>
<td>$23-billion</td>
</tr>
<tr>
<td>RCom</td>
<td>GTL Infrastructure Ltd</td>
<td>2010</td>
<td>Rs 50,000 crore</td>
</tr>
<tr>
<td>Eduexel Infotainment Ltd</td>
<td>Discovery Infoways Ltd</td>
<td>2010</td>
<td>$ 0.90 Million</td>
</tr>
<tr>
<td>Tata AutoComp Mobility</td>
<td>Trimble Navigation Ltd</td>
<td>2010</td>
<td>$ 5.10 Million</td>
</tr>
<tr>
<td>Kavveri Telecom Products Ltd</td>
<td>Investor Group</td>
<td>2010</td>
<td>$ 9.90 Million</td>
</tr>
<tr>
<td>Zain’s African operations</td>
<td>Bharti Airtel Ltd</td>
<td>2010</td>
<td>$ 11 Million</td>
</tr>
<tr>
<td>Radiacion</td>
<td>Kavveri Telecom Products Ltd</td>
<td>2011</td>
<td>$ 27.50 Million</td>
</tr>
<tr>
<td>Qualcomm India Pvt Ltd</td>
<td>Bharti Airtel</td>
<td>2012</td>
<td>$ 165 Million</td>
</tr>
<tr>
<td>Bharti Airtel</td>
<td>Qatar Foundation</td>
<td>2013</td>
<td>$ 1300 Million</td>
</tr>
</tbody>
</table>

*Source: 1. Business India, ASSOCHAM 2. Thomson Banker, Deal Tracker, Aranca Research*
India has sought to restore a measure of stability and market-minded reform to its telecom policy by announcing new rules governing the issue of licenses and spectrum, and mergers and acquisitions (M&As). The rules, which come into effect immediately, according to telecom minister Kapil Sibal, follow barely a fortnight after the Supreme Court cancelled 122 mobile licences issued in January 2008 at the culmination of the 2G scam. The new rules delink spectrum from licences (currently any telco granted a licence is eligible for so-called start-up spectrum), allow those with licences the right to launch any telecom or Internet service, institute a uniform licence fee, set a cap on the spectrum that will be allotted to a telco, provide a detailed framework of how to deal with spectrum in case of a merger, and define a route for the renewal of licenses issued in 1994 that expire in 2014. They also provide clarity on the sharing of spectrum. The rules also sought to liberalize the M&A regime governing the sector. A merger that results in the creation of an entity with a market share of a maximum 35% would be immediately approved. Trai will need to approve anything in excess of this. The merged entity will also not be allowed to hold more than 25% of the spectrum available (10MHz for CDMA) in the specific circle.

1.8.7 3G SPECTRUM

3G phones is a new concept in Indian telecom market. It is notable for its ability to support faster and larger quantities of data, which enables additional service offerings in the form of games, music and video using voice video and data (triple play) and helps to bring about broadband on mobiles. 3G services are supposed to provide high-speed data rates at a minimum of 144kbps in all use scenarios going up to 2 mbps in low mobility and indoor environments. It has higher capacity and improved spectrum
efficiency. The amount of bandwidth needed for 3G services could be as much as 15-20MHz. 3G helps to simultaneously transfer both voice data and non-voice data

3G ALLOCATIONS

Indian government has earned a big Rs.67719 crore rupees from this 3G bidding. The details of this 3G bidding are as follows:

TABLE 1.8.7.1

<table>
<thead>
<tr>
<th>Area</th>
<th>Winning Bid</th>
<th>Winning Bid (In Rs. Crores)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Delhi</td>
<td>Vodafone, Bharthi, Reliance</td>
<td>3,316.9</td>
</tr>
<tr>
<td>Mumbai</td>
<td>Reliance, Vodafone, Bharti</td>
<td>3,247.1</td>
</tr>
<tr>
<td>Karnataka</td>
<td>Tata, Aircel, Bharthi</td>
<td>1,579.9</td>
</tr>
<tr>
<td>Tamil Nadu</td>
<td>Bharti, Vodafone, Aircel</td>
<td>1,464.9</td>
</tr>
<tr>
<td>Andhra Pradesh</td>
<td>Bharti, Idea, Aircel</td>
<td>1,373.1</td>
</tr>
</tbody>
</table>

Source: TOI

Vodafone, Bharthi and Reliance bagged the plum Delhi and Mumbai circles for a whopping Rs 3,316.9 crore and 3,247.1 crore respectively. Bhathi, Reliance and Aircel won 13 circles each, Idea 11 and Vodafone and the Tatas 9 circles each.
3G PAN – INDIA SPECTRUM COMES AT 10 TIMES HIGHER PRICE THAN 2G

The 2G spectrum financial scandal in the Telecommunications and IT Ministry under A.Raja is considered one of the largest political corruption case in history of modern India. The telecom bandwidth was being undervalued and offered to a chosen few with vested interests, on a dubious 'First-Come-First-Served' basis. The 3G bidding closed at a high of Rs,16,758 crore for pan-India spectrum. This is more than 10 times the Rs 1,651 crore price at which telecom minister A Raja awarded pan India 2G license in 2008.

**TABLE 1.8.7.2 2G AND 3G BIDDING AMOUNTS**

<table>
<thead>
<tr>
<th>Area</th>
<th>3G</th>
<th>2G</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pan-India</td>
<td>16,751</td>
<td>1,651</td>
</tr>
<tr>
<td>Delhi</td>
<td>3,317</td>
<td>171</td>
</tr>
<tr>
<td>Mumbai</td>
<td>3,247</td>
<td>204</td>
</tr>
<tr>
<td>Cost per MHz</td>
<td>152.3</td>
<td>17.05</td>
</tr>
</tbody>
</table>

*Source: DoT*

The 3G auctions have established that 2G spectrum was given away for a song in 2008 through preferential allocation methodology. According to the Audit Report of the 'CAG' the following companies are ineligible for the 2G-Spectrum Licenses:- Units of Unitech Ltd, Loop Telecom, Videocon Telecommunications, S Tel Ltd and Swan Telecom, which has since been partly acquired by the UAE’s Etisalat.

By early 2012 the impact of the unfolding scandal over the awarding of 2G licences in 2008 was looking grim for both India and its mobile telephone sector. The cancellation of some 122 mobile licences having been the direction of the Supreme Court decision on the
case, the subsequent responses of the industry regulators are key to the future shape of the industry in India

1.8.8 4G

4G is the short name for fourth-generation wireless, the stage of broadband mobile communications that will supercede the third generation 3G. Representing the next generation in mobile technology, 4G promises faster speed and better coverage.

Existing mobile networks use 3G/UMTS technology, which is now 10 years old and struggling to cope with the needs of today's data hungry users. 4G/LTE (Fourth Generation / Long Term Evolution) is the next stage in mobile network development and will provide users with much faster data speeds than 3G is able to.

4G IN INDIA

The 4G network has been setup and are available in two main cities. That is Kolkata and Bengaluru. Kolkata was the first to have 4G coverage. India’s largest mobile operator company Bharati Airtel won the race to successfully roll out 4G in India for the first time. Airtel has extended its 4G Services to Pune & Chandigarh.

Initially there will only be 4G data service. SMS facility will not be available. 4G USB modem can be used with laptop or pc to serve high speed internet instantly. 4G plans for Airtel starts from Rs.999 with 6GB usage with Airtel’s 4G LTE modem.
1.8.9 MOBILE NUMBER PORTABILITY (MNP)

After a prolonged deliberation, the Mobile Number Portability has been tabled on the Indian Telecom space and it is set to liberalize the final frontiers of competition in the Telephony space. Subscribers have been unwillingly tied on to service providers irrespective of deteriorating service standards, thanks to locked in number series per provider. MNP has ushered in an era of new freedom for mobile subscribers in the country. The technology has allowed subscribers to change their mobile service provider without the fear of losing their old mobile number.

This means users will be able to retain their old mobile number even after they decide to change their service provider. The service is available for both postpaid and prepaid customers and also on both GSM and CDMA platforms. MNP (mobile number portability) will incur a charge (Rs 19). The Telecom Regulatory Authority of India (TRAI) introduced Mobile Number Portability (MNP) in early 2011. TRAI mandates that the porting transaction be completed in seven days.

MNP - ADOPTION IN INDIA

India introduced Mobile Portability Number (MNP) across the country in January last year. However, in Haryana it was implemented somewhat earlier than other part of the country. Indian Telecom regulator TRAI has reportedly revealed that 93.56 million mobile subscribers submitted mobile number porting request upto May 2013.

The following chart shows the number of requests for ‘number porting’ upto May 2013 recorded state wise and zonewise.
Figure 1.8.9.1 Chart showing MNP for Zone 1

Figure 1.8.9.2 Chart showing MNP for Zone 2
The number of MNP request which has been provided is just before the Indian Supreme Court’s decision. After hearing of 2G scam litigation, the Supreme Court announced its verdict, cancelling of 122 licenses. The company, which have been debarred by Supreme court to further services including Uninor, MTS, Etisalat, STel, Loop Telecom. However, some carrier operators got incumbent such as Idea Cellular and Tata Teleservices. Definitely, Supreme Court’s decision might upshot negative to some carrier operators.

MNP requests has been divided into two Zone; Zone-I comprises North and West India, while, Zone-II includes South and East India. In Zone-I, Rajastan dominated with 90.44 lakh requests followed by Gujarat with 79.87 lakh ‘number porting’ requests upto May 2013. Jammu & Kashmir had lowest number of requests. However, Jammu & Kashmir was expected to have lowest due to lowest mobile subscribers.

Considering Zone-II, Karnataka led with 110.30 lakh followed by Andhra Pradesh with 84.73 lakh of requests for ‘number porting’ upto May 2013. Contrarily, just 1.64 lakh requests were entertained by subscribers in North East circle.

The interesting factor to consider here is the penetration of number portability is much higher in developed states like Karnataka, Andhra Pradesh and Gujarat where number of telecom operators are expected to operate with much developed infrastructure support and services. Be it offline support outlets or online customer care, operators in these circle are aware about users expectations and intense dependencies over mobile phone. Despite of all, mobile users apparently much more demanding against their payout and equally unsatisfied.
GAINERS & LOSERS OF MNP AS ON AUG, 2012

Market leader Bharti Airtel has overtaken Vodafone to become the second best telecom operator after Idea Cellular in the field of Mobile Number Portability. Vodafone has been a consistent performer in MNP space since the beginning while Airtel has witnessed a lot of ups and downs. But Airtel has bounced back with strong “Port In” numbers and has become second best telecom operator in MNP.

With 34.56 lakh customers while Idea continues to be a leader of the pack with net gain of 36.01 lakh. Vodafone’s net gain has dropped to 26.80 lakh upto Aug’12. Idea Cellular, Airtel and Vodafone are the only three operators having more “Port In” of customers than “Port Out” and other 12 operators are consistently losing customers to these three operators.

Although Idea has the highest net gain of MNP customers but this year Airtel has attracted most number of customers in its fold. In December 2011 more number of Airtel customers where switching out than joining in and in just eight months it has turned the tables and has recorded more than 34 lakh net gain of MNP customers which is higher than Idea’s net gain in 2012. Idea’s net gain of MNP customers grew from 20.6 lakh in Dec’11 to 36 lakh in Aug’12 which translates to 16 lakh in eight months. Vodafone has been able to show net gain of 13 lakh customers in 2012. And with this rate there exists a strong possibility that Airtel will overtake Idea Cellular within couple of months in the field of MNP to cement its leadership position in Indian Mobile industry.
<table>
<thead>
<tr>
<th>SERVICE PROVIDER</th>
<th>MNP NET GAIN / LOSS UPTO AUGUST 2012</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>MNP NET Gainers</strong></td>
<td></td>
</tr>
<tr>
<td>IDEA CELLULAR</td>
<td>3601099</td>
</tr>
<tr>
<td>AIRTEL</td>
<td>3456655</td>
</tr>
<tr>
<td>VODAFONE</td>
<td>2680438</td>
</tr>
<tr>
<td><strong>MNP NET Losers</strong></td>
<td></td>
</tr>
<tr>
<td>BSNL CDMA</td>
<td>-157</td>
</tr>
<tr>
<td>LOOP</td>
<td>-20010</td>
</tr>
<tr>
<td>HFCL CDMA</td>
<td>-39907</td>
</tr>
<tr>
<td>MTS</td>
<td>-42673</td>
</tr>
<tr>
<td>MTNL</td>
<td>-105857</td>
</tr>
<tr>
<td>S-TEL</td>
<td>-194970</td>
</tr>
<tr>
<td>VIDEOCON</td>
<td>-312594</td>
</tr>
<tr>
<td>SWAN</td>
<td>-574311</td>
</tr>
<tr>
<td>UNINOR</td>
<td>-1454859</td>
</tr>
<tr>
<td>AIRCEL</td>
<td>-552070</td>
</tr>
<tr>
<td>BSNL GSM</td>
<td>-712652</td>
</tr>
<tr>
<td>TATA GSM</td>
<td>-459125</td>
</tr>
<tr>
<td>TATA CDMA</td>
<td>-1286346</td>
</tr>
<tr>
<td>RELIANCE CDMA</td>
<td>-1595760</td>
</tr>
<tr>
<td>RELIANCE GSM</td>
<td>-2387001</td>
</tr>
</tbody>
</table>

TRAi MANDATES PAN-INDIA NUMBER PORTABILITY

Mobile number portability (MNP) allows a subscriber to retain his mobile telephone number when he moves from one service provider to another. At present, MNP is restricted within a service area. For example, a Bharti Airtel subscriber from Andhra Pradesh circle can port his mobile number to Idea Cellular within Andhra Pradesh only. If this subscriber moves to another circle, for instance, Delhi, he needs to acquire a separate Delhi mobile number, else pay roaming charges, which are higher than the average call tariff. India has 22 service areas or circles.

Pan-India MNP will allow this subscriber to move to any other circle like Delhi or Maharashtra, even a new service provider like Idea Cellular, without changing his mobile number and hence not pay roaming charges. Indian mobile phone users will be able to keep the same number when they're moving to a different state by April as telecom regulator mandated mobile phone companies to implement full mobile number portability within six months.

The Telecom Regulatory Authority of India's (TRAi’s) move will come to aid of millions of mobile phone users that have to purchase new numbers while moving to another state.
1.8.10 ISSUES AND OPPORTUNITIES OF THE INDIAN MOBILE TELECOM INDUSTRY

India’s telecom market feels the mobile sector turmoil as the shake-out from 2G scandal continues India’s massive mobile market entered a period of uncertainty in 2012 and this had continued into 2013. Whilst maintaining its ranking as one of the two largest telecom markets in the world (not surprisingly the other being China), India has looked anything but the strong market it was two years earlier. A number of factors have contributed to this situation. The Supreme Court decision in February 2012 that saw the large scale cancellation of operator licences and the subsequent response of the regulators to the court orders set the scene for the market uncertainty that followed. In the wake of the court decision and specifically the directive to re-auction the cancelled licences, a number of operators exited the market, whilst others were looking to rationalise their businesses. After a number of delays, the all-important re-auctioning of the cancelled 2G mobile licences took place in late 2012. This saw a disappointing outcome for the government with much of the spectrum on offer not even attracting bids, the high reserve prices clearly frightening off potential buyers. A further auction was held in March 2013 to sell off the remaining spectrum. Again the lack of bidder interest forced further postponements.
In the meantime a different kind of ‘shake-out’ was impacting on the mobile market. Operators had begun culling inactive prepaid subscribers from their customer databases; by mid-2012 this process had caused a major dislocation in the subscriber statistics and it was evident that the market would need time to adjust. The mobile sector had passed the 900 million subscriber mark by early 2012; by end-2012, however, the total subscriber numbers had fallen to around 860 million as the combined net effect of growth and culling was felt. Despite this dislocation, overall growth in the national subscriber base in the medium to long term was expected to continue at a strong rate; by mid-2013 the net subscriber numbers were increasing once more. One of the reasons for the operators culling their databases was to lift Average Revenue Per User (ARPU). Mobile ARPU in India had been steadily declining over the years as competing operators offered cheaper tariffs; at the same time usage levels have remained reasonably high thus slowing the decline in revenues. At the same time, there had been a major push in recent years to take mobile services into the poorer and rural areas of the country; this inevitably weighed heavily on ARPU. Countering this trend, the long-awaited 3G licensing has seen networks across the country finally delivering mobile data services to customers. Although still struggling with coverage issues, 3G has started to see operators boosting revenue. By 2012 and into 2013 there were positive signs that the decline in ARPU was ‘bottoming out’ as operators began reporting increased ARPUs.

The Indian mobile industry offers a mix of opportunities and issues which invariably reflects the future growth prospects of the industry.
Figure 1.8.10.1 Figure showing Major Issues and opportunities in Indian Mobile Industry

A number of factors have been responsible for the amazing growth in India’s telecom sector; apart from the obvious booming economy and the rapid expansion in the country’s middle class, the growth drivers include low tariffs, low handset prices and most notably a highly competitive market created by the government and the regulator. The government has continued to open the market up to more and more competition. Home to a clutch of global operators working with local companies, the government has continued to issue licenses to new telecom operators. Competition in the market place has become even more intense over the last year or so. The launch of Mobile Number Portability (MNP) in 2011 added yet another dimension to this intensely competitive market.
While the mobile subscriber base was continuing to grow at an annual rate of around 20% coming into 2012, Average Revenue Per User (ARPU) has been steadily declining as competing operators offer cheaper tariffs; at the same time usage levels have remained reasonably high thus slowing the decline in revenues. The table depicts the declining return of capital faced by major players like Bharthi, Idea Cellular, Reliance Com and Vodafone.

![Graph showing Indian Mobile Operators Return on Capital](image)

*Figure 1.8.10.2 Figure showing Indian Mobile Operators Return on Capital*

There has been a major push in recent years to take mobile services into the poorer and rural areas of the country; this has also weighed heavily on ARPUs. In 2010 the long-awaited 3G auctions finally took place. Although still struggling with coverage issues, 3G has certainly given yet another boost to the already huge mobile
sector. Despite the 2G scandal and its aftermath - the mobile industry should continue to
grow for the time being. As for the rest of the market, the country’s fixed-line sector,
having grown strongly for a while, has been experiencing zero and negative growth of
late. There has been a fresh effort made to promote broadband internet access throughout
the country; after a period in which broadband development languished - and the
government became concerned - there was new hope for a serious expansion phase in this
segment of the market. The segment has continued to puzzle the observer – and the
government. Despite the obvious enthusiasm for internet access found across the country,
India’s move into high-speed broadband internet has been noticeably sluggish. By 2011
broadband internet penetration in India was still a low 1%, with these broadband services
accounting for about 60% of the total internet subscriber base. In other words, coming
into 2012 there were just over 13 million broadband subscribers in a country of 1.2
billion people. In the meantime, somewhat paradoxically, the overall level of internet
usage seems to be growing strongly, perhaps boosted by the widespread use of internet
cafes and other points of public online access.

With the government continuing to push to complete the restructuring of the
telecommunications regulatory regime, the opening up of the market to full scale
competition has been dramatic. The Telecom Regulatory Authority of India (TRAI)
remains committed to further structural reforms. The adoption of Unified Licensing, a
change in the Access Deficit Charge regime, and the encouragement of increased
infrastructure sharing, especially towers for mobile networks, were all contributing to
ongoing growth. Another important initiative has been the Indian government’s revised
Foreign Direct Investment (FDI) policy which increased the foreign ownership cap from 49% to 74%. If anything it could be said that the regulation of the market has been overly enthusiastic; there being some signs that the market was starting to suffer from the complexity of the regulatory regime. In parallel with the regulatory change process, there has been a continuing evolution of the market through a series of mergers and takeovers among the mobile operators that has initially resulted in a welcome and productive consolidation. Through 2011 and into 2012, growth in India’s mobile market was continuing, but more modestly than in previous years; By January 2012 the country around 900 million mobile subscribers, for a penetration of 74%; The mobile market was continuing to expand at an annual rate in excess of 20% into 2011; GSM was strengthening its position as the dominant mobile technology with 85% of the mobile subscriber market, as CDMA slipped further behind; The number of broadband Internet subscribers is finally on the increase, reaching 13.3 million for a penetration of 1.1% by population by end-2011.

Whilst maintaining its ranking as one of the two largest telecom markets in the world – not surprisingly the other being China - India’s massive mobile market entered a period of uncertainty in 2012. A number of factors have contributed to this uncertainty which in turn was set to see some changes in the marketplace. The Supreme Court decision in February 2012 that resulted in the large scale cancellation of operator licenses and the subsequent responses of the regulators to the court orders saw an increasingly nervous market. Indeed, the unfolding impact of the 2G scandal was looking grim for the mobile industry, with some operators either exiting or considering exiting the market. After a
number of delays, the all-important re-auctioning of the cancelled 2G mobile licenses had been set for late in 2012.

By mid-2012, there had also been another form of ‘shake out’ in the mobile subscriber market as operators culled inactive prepaid subscribers from their customer bases; this process had caused a dislocation in the subscriber statistics and it was evident that the market would need time to settle. Despite the difficulties, overall growth in the national subscriber base was expected to continue at a still strong rate. The mobile sector had passed the 900 million subscriber mark by early 2012; the number was just 10 million subscribers in 2002.

While the mobile subscriber base witnessed growth of around 20% annually coming into 2012, Average Revenue Per User (ARPU) had been steadily declining as competing operators offered cheaper tariffs; at the same time usage levels have remained reasonably high thus slowing the decline in revenues. There has been a major push in recent years to take mobile services into the poorer and rural areas of the country; this has also weighed heavily on ARPUs. But countering this trend, the long-awaited 3G licensing has seen networks across the country delivering mobile data services to customers. Although still struggling with coverage issues, 3G was finally starting to help operators boost revenue. In 2012 there were signs that the decline in ARPU was ‘bottoming out’ and some operators were reporting increased ARPUs.

The Indian telecom sector offers unprecedented opportunities in various areas, such as rural telephony, 3G, virtual private network, value-added services, et al. Nonetheless, the
lack of telecom infrastructure in rural areas and falling ARPU of telecom service providers could inhibit the future growth of the industry.

1.8.11 INDIAN TELECOMMUNICATION - THE ROAD AHEAD

A host of factors like intense competition and the ensuing decline in ARPU (average revenue per user) have raised question marks over the future growth of the sector. However, according to the report by BCG (Boston Consulting Group) the Indian telecom sector to grow to $100 bn by 2015. Contrary to the general belief that telecom story is over; the report predicts that key factors, which will fuel the growth, will be increased access to services thanks to launch of newer telecom technologies like 3G and BWA, better devices, changing consumer behaviour and the emergence of cloud technologies. Majority of the investments will go into the capital expenditure for setting up newer networks like 3G and developing the backhaul. The industry will continue to grow at 12-13 per cent annually.

POLICY INITIATIVES

With a target to further increase the opportunities in the sector, the Indian government is taking proactive measures to develop this sector with the help of the various players in this segment. The Telecom policy 2011, will replace the existing framework that has been in place since 1999, and it aims to make the country’s telecommunications sector more transparent, relax merger and acquisition norms to encourage consolidation and also give more teeth to sector regulator Telecom Regulatory Authority of India (TRAI). The new policies by the Indian Government also proposes to do away with roaming charges,
introduce a stronger customer grievance redressal mechanism, recognize telecoms as an infrastructure sector giving it tax concessions, and extend preferential status to 'Made in India' hardware products, thereby strengthening the Indian Telecom Industry for future challenges. The Telecom Regulatory Authority of India (TRAI) remains especially committed to further structural reforms. The adoption of Unified Licensing, a change in the Access Deficit Charge regime, and the encouragement of increased infrastructure sharing, especially towers for mobile networks, were all contributing to ongoing growth. Another important initiative has been the Indian government's revised Foreign Direct Investment (FDI) policy which increased the foreign ownership.

The government has brought another wave of FDI reforms in India by liberalizing the limits in over a dozen sectors, and allowing 100 per cent in the telecom sector to boost the growth of the economy. The move comes at a time when Indian telecom industry has been hit the most by regulatory uncertainties and rising debt burden owing to massive payouts for acquiring spectrum airwaves. According to a report, Indian telecom industry has been facing a debt burden of over Rs 2.5 lakh crore and amidst such issues various telecom operators have already exited Indian market. The move to allow 100 per cent FDI in the sector will provide much-needed relief to the banks which have exposure to these telecom operators. The industry, which used to be golden goose that laid golden eggs, was hit hard by the SC order quashing 122 licences awarded in 2008 by then telecom minister A Raja. the move to increase FDI cap of 74 percent to 100 percent is welcome as it will help the industry to bring in more FDI to fund the high Capex demands of this sector especially in areas to enhance coverage, and launch new 3G and BWA services.
Since Indian telecom penetration and broadband reach is well below many foreign nations, there is huge potential to be tapped. GSM operators have 671.13 million mobile users in India as of June 2013. Broadband subscribers stand at around 15 million.

SHARE HOLDING OF COMPANIES IMPACTED BY 100% FDI IN TELECOM

Figure 1.8.11  Figure showing Shareholding of Companies Impacted by 100% FDI in Telecom

Source –Economic Times 2013

Besides Sistema of Russia, leading companies such as DoCoMo of Japan, SingTel of Singapore, Maxis of Malaysia, Vodafone plc of the U.K., Axiata of Malaysia, Telenor of Norway, etc. will benefit from the move. Telecom giants such as AT&T, Verizon, MTN, Qatar Telecom, etc. could look / relook India as an investment destination. Bharti Group
in Airtel, Aditya Birla Group in Idea, Tatas in TataTele, Shyam in MTS, Piramal and Vodafone, Reliance in Reliance Infocomm, and Reddys in Aircel can now sell in part or full their stake to the foreign investors. The new policy will help the sector attract additional funds in next few years it requires to adopt emerging technologies, increase offerings and improve penetration for which only debt or local investments would not have been enough.

The Indian Telecom industry is fast transitioning from a growth phase to a maturity phase of the industry lifecycle and the competition will get tougher for the players in the years to come. The impending changes in technology and regulatory policy like 3G and MNP are expected to change the rules of the game in the industry and might even change the industry structure. But the issues faced by consumers in the form of QoS, discrepancies in plans and telecom towers mushrooming everywhere still need to be addressed by the government agencies through proper planning and forward looking policy decisions.

However, it cannot be denied that India still has a lot of ground to cover to achieve a growth rate equal to that of other developed and developing economies. India is among the last countries to access 3G technology at a time many countries have already deployed 4G technologies. As such, the government still has to go a long way to introduce policies, regulations, guidelines, etc in the interest of not only the government or the telecom operators but also in the interest of the end consumers and that too without any delay.
1.9 SUMMARY

This chapter provides the foundation for the thesis. It provides a context and background of the study. The research problem and specific research objectives have been stated to focus on the main theme of the research. The significance of the study justifies the need for an in-depth study on the top of service delivery and its impact on customer satisfaction among users. The main purpose of the study was to analyze the relationship between service quality dimensions and customer satisfaction and whether this has a relation with customer recommendation of service provider to other users. Limitations of the study and a chapter structure were provided for the whole thesis. An in-depth understanding of the mobile service industry in India, the major players operating in this sector and recent developments affecting the mobile service sector has been provided to highlight the relevance of the research area which is service delivery and the dimensions of mobile services affecting customer satisfaction and recommendation of service positively. With the first chapter providing the foundation of the thesis, the thesis proceeds with the next chapter which is Literature Review.