CHAPTER -1
CRM STRATEGIES IN MOBILE COMPANIES

1. INTRODUCTION
1.1 ABOUT TELECOM SECTOR

Globalization, liberalization and privatization are the three most spoken words in today’s world. These initiatives paved way for all-round reforms, especially in developing economies, like India. These countries realized that development of effective and efficient means of communications and information technology is important to push them onto the path of development. The growth of the telecom sector in India during post-liberalization has been phenomenal. This research aims to throw light on the factors that contributed to growth in the segment and presents an insight on the present status of the industry.

1.1.1 Global Telecom Industry: An Overview

With the awareness spreading around the world on the Information and Communications Technology (ICT), in the later part of the 20th century countries, especially the developing ones, began to realize the importance of an efficient telecommunication network for the development of the economy.

At the dawn of the 21st century, the developing countries started to make full use of the technology revolution taking place around the world, with many countries liberalizing the existing stringent policies and regulations. To improve information and telecommunication technology, 189 countries of the UN met at the Fifty-Fifty General Assembly on September 2000. A millennium declaration was made, according to which the countries reaffirmed their commitment to improve the living conditions of poor and downtrodden in the world by adopting intense poverty programmes. One of the targets of this declaration was adherent to “In co-operation with the private sector make available the benefits of new technologies, especially information and communication”.

*The indicators that were to be used for monitoring the progress were:*

- Telephone line and cellular subscribers, per 100 units of population.
- Personal computers in use for 100 units of population.
- Internet user per 100 units of population.

Even before the declaration, many developing countries had started liberalizing their internal policies to enable efficiency as to affordability as and reach ability of telecommunication system. By 1995, most of the low income developing countries of the world, made their economies global, by liberalizing the domestic licensing and important policies on the whole, to facilitate inflow of foreign capital into the infrastructure sector, especially in the telecommunication sector. This resulted in a telecom revaluation, with countries adopting liberalization initiatives, experiencing a never-before growth in the telephone network, including the penetration levels. Developing countries today account for Developing countries today account for 49% of the total telephone network in the world. While in East Asia (including China) the total teledensity grew at a rapid pace to reach 27.4 in 2002 the teledensity grew at a slower pace in south Asia (Including India), to reach 4.5 in 2002. This is due to imperfections in government regulatory and licensing policies in the 90s in most of the South Asian countries. While there was imbalanced development in ICT among the developing countries in individual growth in telecom, country-wise also showed a partial development, where the development in other segments apart from cellular was snail-paced. This was due to phenomenal growth in the cellular segment, whose major contribution was toward urban telephony.

By the end of 2006, the telecommunication industry had experienced continuous growth, as well as rapid progress in policy and technology development, resulting in an increasingly competitive and networked world. It is true and encouraging that overall, the digital divide has been reduced and continues to shrink. ITU statistics show that over the last 10 years, the digital divide between the developing and the developed countries has been narrowing in terms of fixed telephone lines, mobile subscribers and Internet users. In contrast to the slow fixed line growth, phenomenal growth rates in the mobile sector particularly, have been able to reduce the gap that separates the developed from the developing countries from 27 in 1996, to 4 in 2006. The fixed line gap has been reduced from 11 to 4 during the same period.
1.1.2 Mobile Communication Technology

Global system for Mobile communication (GSM around 80-85% market share) Code Division Multiple Access (CDMA, around 10-15% market share) are two prevalent mobile communication technologies. Both technologies have to solve the same problem: to divide the finite Radio Frequency spectrum among multiple users. India primarily follows the GSM mobile system, in the 900MHz and 1800MHz band. The 900MHz band has greater transmission characteristics, thereby enabling lower capex cost for expansion of coverage area, as the number of towers and the base stations required would be lesser than in the 1800MHz band.

TDMA (Time Division Multiple Accesses—underlying technology used in GSM's G) does it by chopping up the channel into sequential time slices. Each user of the channel takes turns to transmit and receive signals. In reality, only one person is actually using the channel at a specific moment. This is analogous to time-sharing on a large computer server.

CDMA (Code Division Multiple Access—underlying technology used in GSM's 3G and IS-95's 2G) on the other hand, uses a special type of digital modulation called spread spectrum which spreads the voice data over a very wide channel in pseudorandom fashion. The receiver undoes the randomization to collect the bits together and produce the sound. For comparison, imagine a cocktail party, where couples are talking to each other in a single room. The room represents the available bandwidth. In GSM, a speaker takes turns talking to a listener. The speaker talks for a short time and then stops to let another pair talk. There is never more than one speaker talking in the room, no one has to worry about two conversations mixing. In CDMA, any speaker can talk at any time; however each uses a different language. Each listener can only understand the language of his or her partner. As more and more couples talk, the background noise (representing the noise floor) gets louder, but because of the difference in languages, conversations do not mix.

Advantages of 2G GSM

- GSM is mature and has a more stable network with robust features.
- Less signal deterioration inside buildings.
• Talk time is generally higher in GSM phones due to the pulse nature of transmission.
• The availability of Subscriber Identity Modules allows users to switch networks and handsets at will.
• GSM covers virtually all parts of the world so international roaming is not a problem. The much bigger number of subscribers globally creates a better network effect for GSM handset makers, carriers and end users.

Advantages of CDMA
• Capacity is CDMA’s biggest asset. It can accommodate more users per MHz of bandwidth than any other technology.
• CDMA has no built-in limit to the number of concurrent users.
• CDMA consumes less power and covers large areas so cell size in CDMA is larger.
• CDMA is able to produce a reasonable call with lower signal (cell phone reception) levels. CDMA uses soft handoff, reducing the likelihood of dropped calls.
• CDMA’s variable rate voice coders reduce the rate being transmitted when speaker is not talking, which allows the channel to be packed more efficiently.

Disadvantages of 2G GSM
• Pulse nature of TDMA transmission used in 2G interferes with some electronics, especially certain audio amplifiers. 3G uses W-CDMA now.
• Intellectual property is concentrated among a few industry participants, creating barriers to entry for new entrants and limiting competition among phone manufacturers.
• GSM has a fixed maximum cell site range of 35 km, which is imposed by technical limitations.

Disadvantages of CDMA
• Most technologies are patented and must be licensed from Qualcomm.
• Breathing of base stations, where coverage area shrinks under load. As the number of subscribers using a particular site goes up, the range of that site goes down.

• CDMA may not perform well in hilly terrain because CDMA towers interfere with themselves; they are normally installed on much shorter towers.

• CDMA covers a smaller portion of the world, and CDMA phones are generally unable to roam internationally.

• Manufacturers are often hesitant to release CDMA devices due to the smaller market, so features are sometimes late in coming to CDMA devices.

• The phones are not portable across providers

(Source: www.itu.int.)

1.1.3 An Overview Transition of Indian Telecom Industry

The history of the Indian Telecom sector goes way back to 1851, when the first operational landlines were laid by The British Government in Calcutta. With independence, all foreign telecommunication companies were nationalized to form Post, Telephone and Telegraph, a monopoly run by the Government of India.

The Indian Telecom Sector, like most other infrastructure sectors is controlled by the state. The Department of Telecommunications (DoT), reporting to the Ministry of Communications (MoC) is the key body for policy issues and regulation, apart from being a basic service provider to rest of country. By an act of Parliament, the Telecom Regulatory Authority of India (TRAI) was formed to be the regulatory agency.

Ministry of Communication:

All the operations of this sector come under the control of MoC. It is responsible for all major policy changes, planning, supervision, spectrum control, etc.

Department of Telecommunications:

DoT was formed in 1985 when the Department of Posts and Telecommunications was separated into Department of Posts and Department of Telecommunications. Till 1986, it was the only telecom service provider in India. It played a role beyond service provider by acting as a policy maker, planner, developer as well as an implementing body. In spite of being profitable, non-corporate entity status ensured that it did not have to pay taxes.
DoT depends on Government of India for its expansion plans and funding. Its pivotal role in the Indian telecom sector has got diluted after formation of TRAI- Telecom Regulatory Authority of India.

**Telecom Regulatory Authority of India:**
TRAI was founded to act as an independent regulatory body supervising telecom development in India. This became important, as DoT was a regulator and a player as well. Founded by an Act of Parliament, the main functions of the body was to finalize toll rates and settle disputes between players. An independent regulator is critical at the present situation as the sector witnesses competition. The operations of this sector are determined as under the Indian Telegraph Act of 1885 – A document buried in the sands of time. The next major policy document, which was produced, was the National Telecom Policy of 1994, a consequence of the ongoing process of liberalization.

**The Telecom Commission:**
The Telecom Commission was set up by the government of India vide Notification dated April 11, 1989 with administrative and financial powers of the government of India to deal with various aspects of Telecommunications. The Telecom Commission and the DoT are responsible for policy formulation, licensing, wireless spectrum management, administrative monitoring of PSUs, research and development and standardization or validation of equipment, etc. The multi-pronged strategies followed by the Telecom Commission have not only transformed the very structure of this sector, but also have motivated all the partners to contribute in accelerating the growth of the sector. The other entities in the sector under the control of MoC are the two public sector telecom equipment manufacturers, namely Indian Telephone Industries (ITI) and Hindustan Teleprinters Ltd. (HTL). Both these companies are facing financial problems because of product obsolescence, poor management and over staffing. Telecommunications Consultants India Ltd. (TCIL), another PSU was founded in 1978 to undertake consultancy services in the field of telecom. (Source; www.dotindia.com.)

**1.1.4 Objectives of The National Telecom Policy**
The objectives of the NTP 1999 are as under:
• Access to telecommunications is of most importance for achievement of the country’s social and economic goals. Availability of affordable and effective communication for the citizens is at the core of the vision and goal of the telecom policy.

• Strive to provide a balance between the provision of universal service to all uncovered areas, including the rural areas, and the provision of high-level services capable of meeting the needs of the country economy.

• Encourage development of telecommunications facilities in remote, hilly and tribal areas of the country.

• Create a modern and efficient telecommunications infrastructure taking into account the convergence of IT, media, and telecom and consumer electronics and thereby propel India into coming an IT superpower.

• Convert PCOs, wherever justified, into Public Tele information centers having multimedia capability like ISDN services, remote database access, government and community information systems, etc.

• Transform in a time bound manner, the telecommunications sector to a greater competitive environment in both urban and rural areas providing equal opportunities and level playing field for all players.

• Strengthen research and development efforts in the country and provide an importance to build world-class manufacturing capabilities.

• Achieve efficiency and transparency in spectrum management.

• Protect defense and security interests of the country.

• Enable Indian telecom companies to become truly global players.

1.1.5 Telecommunication Services

Today tariff for telecommunication services in India is one of the lowest in the world. The Indian consumer has immensely benefited from such lower tariffs which has also been a major factor for explosive growth in the sector.

Following is the list of services offered by both GSM and CDMA operators:
- Telephone services
- NSD/ISD services
- Computerized trunk services
- Pay phones
- National & international leased lines circuits
- Telex
- Telegraph services (manual & automatic)
- X-25 based Packer Switched Data Network (NET)
- Gateway Packet Switched Data Services (GPSS)
- Gateway Electronic Data Interchange Service (GEDIS)
- Gateway E-Mail and Store & Forward FAX Service (GEMS-400)
- Concert Packet Service (CPS)
- Satellite based remote area business message network
- Electronic Mail
- Voice
- Audio-text
- Radio paging
- Cellular mobile telephone
- Public mobile radio trunked service
- Video-text
- Video conferencing
- V-SAT
- Internet
- ISDN
- INMARSAT mobile service
- INMARSAT data service
- Home country direct service
- Intelligent Network (IN) services
1.1.6 Trend in Indian Telecom Industry

India has become one of the fastest growing mobile markets in the world. The mobile services were commercially launched in August 1995 in India.

In the initial 5-6 years the average monthly subscribers additions were around 0.05 to 0.1 million only and the total mobile subscribers base in December 2002 stood at 10.5 millions. However, after the number of proactive initiatives taken by regulator and licensor, the monthly mobile subscriber additions increased to around 2 million per month in the year 2003-04 and 2004-05. The total number of telephone subscribers has reached 202.74 million at the end of February 2007. The overall tele-density has increased to 18.26 in February 2007. The total wireless subscriber (GSM, CDMA & WLL (F)) base is 162.53 million. Whereas in the wire line segment with the minor reduction in subscriber base by 0.01 million lines in February 2007, the total wire line subscribers are 40.39 million.

On the lines of previous three years, the year 2005-06 also witnessed a phenomenal growth in the subscriber base for mobile services, and also increases in the subscriber base of Fixed including WLL (F) services as well as Internet services, thus building on the growth trend in subscriber base experienced since mid-1990s.

The mobile Industry crossed the 90.14 million subscriber mark at the end of the financial year in comparison to the subscriber base of 52.22 million at the end of March, 2005. It added 37.92 million subscribers in the financial year 2005-06 registering an annual growth rate of about 72.62%. The subscriber base of Fixed including WLL (F) services also grew from 46.19 million at the end of March, 2005 to 50.17 million at the end of March, 2006, registering a growth rate of about 8.62%. The Internet subscriber base in the country as of 31st March, 2006 stood at 6.93 million as compared to 5.55 million during the previous year, and registered an annual growth rate of about 25%. The teledensity at the end of March, 2006 reached to the mark of 14% as compared to 9.08% at the end of previous year recording an increase of 4.92%. This annual growth in tele-density is unprecedented and this was largely due to steep increase in mobile subscriber base and the various innovative tariff plans launched by the mobile service providers. This growth in tele-density also becomes very significant in view of the fact that overall
increase in tele-density during the 50 years period from 1948 to 1998 on a much smaller population base was only 1.92%.

**1.1.7 Indian Telecom Industry (Year 2009-10)**

The total number of telephone connections reaches 413.85 million in February 2009. With this growth, the overall tele-density has reached 35.65 in February 2009 as against 18.26 in February 2007. The total wireless subscribers (GSM, CDMA & WLL (F)) base stood at 391.76 million at the end of March 2009. In the wire line segment, the subscriber base has increased to 37.96 million in the month of March 2009 as against 37.73 million subscribers in February 2009 registering an increase of 0.23 million. The total number of telephone connections reaches 452.91 million at the end of May 2009. With this growth, the overall tele-density has reached 38.88 at the end of May 2009. The total wireless subscribers (GSM, CDMA & WLL (F)) base stood at 415.25 million at the end of May 2009.

In the wire line segment, the subscriber base has decreased to 37.66 million in the month of May 2009 as against 37.81 million subscribers in April 2009 registering a slight decrease of 0.15 million.

The number of telephone subscribers in India increased to 509.03 Million at the end of Sept-09 from 494.07 Million in August-2009, thereby registering a growth rate of 3.03%. With this, the overall Tele-density in India reaches 43.50. The set target of 500 million telephones by the end of 2010 has been achieved by September 2009. Wireless subscriber base increased from 456.74 Million in August-2009 to 471.73 Million at the end of September-09 at a monthly growth rate of 3.28%. Wireless Tele-density stands at 40.31. Wireline subscriber base declined from 37.33 Million in August-2009 to 37.31 Million at the end of September-09. This decline is mainly on account of reduction in the Wire line subscriber base of BSNL/MTNL, which lost 0.06 Million subscribers in the month of September-09. These two PSU operators hold 85.67% of the Wire line market share. Overall Wire line teledensity is 3.19. Total Broadband subscriber base has increased from 6.98 million in August-09 to 7.22 million in September-09, thereby showing a growth of 3.29%.
The number of telephone subscribers in India increased to 581.81 Million at the end of January-2010, thereby registering a growth rate of 3.49%. With this, the overall Teledensity in India reaches 49.50. Wireless subscriber base increased from 525.15 Million in December-09 to 545.05 Million at the end of January-2010 at a monthly growth rate of 3.79%. Wireless Tele-density stands at 46.37. Wireline subscriber base declined from 37.06 Million in December-2009 to 36.76 Million at the end of January-2010. BSNL/MTNL, two PSU operators hold 84.96% of the Wire line market share. However, they lost 0.36 Million subscribers in the month of January-2010. Overall Wire line teledensity is 3.13.

**Broadband (256 Kbps download)**

Total Broadband subscriber base has increased from 7.83 million in December-09 to 8.03 million in January-2010, there by showing a growth of 2.42%. Telecommunications is the transmission of data and information between computers using a communications link such as a standard telephone line. Typically, a basic telecommunications system would consist of a computer or terminal on each end, communication equipment for sending and receiving data, and a communication channel connecting the two users. Appropriate communications software is also necessary to manage the transmission of data between computers. Some applications that rely on this communications technology include the following: Electronic mail (e-mail) is a message transmitted from one person to another through computerized channels. Both the sender and receiver must have access to on-line services if they are not connected to the same network.

E-mail is now one of the most frequently used types of telecommunication. Facsimile (fax) equipment transmits a digitized exact image of a document over telephone lines. At the receiving end, the fax machine converts the digitized data back into its original form.

Voice mail is similar to an answering machine in that it permits a caller to leave a voice message in a voice mailbox. Messages are digitized so the caller's message can be stored on a disk. Videoconferencing involves the use of computers, television cameras, and communications software and equipment. This equipment makes it possible to conduct electronic meetings while the participants are at different locations. The Internet is a
continuously evolving global network of computer networks that facilitates access to information on thousands of topics. The Internet is utilized by millions of people daily. Actually, telecommunications is not a new concept. It began in the mid-1800s with the telegraph, whereby sounds were translated manually into words; then the telephone, developed in 1876, transmitted voices; and then the teletypewriter, developed in the early 1900s, was able to transmit the written word. Since the 1960s, telecommunications development has been rapid and wide reaching. The development of dial modem technology accelerated the rate during the 1980s. Facsimile transmission also enjoyed rapid growth during this time. The 1990s have seen the greatest advancement in telecommunications. It is predicted that computing performance will double every eighteen months. In addition, it has been estimated that the power of the computer has doubled thirty-two times since World War II (Withrow, 1997). The rate of advancement in computer technology shows no signs of slowing. To illustrate the computer's rapid growth, Ronald Brown, former U.S. secretary of commerce, reported that only fifty thousand computers existed in the world in 1975, whereas, by 1995, it was estimated that more than fifty thousand computers were sold every ten hours (U.S. Department of Commerce, 1995). Deregulation and new technology have created increased competition and widened the range of network services available throughout the world. This increase in telecommunication capabilities allows businesses to benefit from the information revolution in numerous ways, such as streamlining their inventories, increasing productivity, and identifying new markets.

(Source: www.trai.gov.in)

1.1.8 Progress of Reforms

Private Participation in Telecom

For the provision of basic services, the entire country was divided into 21 telecom circles, excluding Delhi and Mumbai (Singh et al. 1999). With telecom markets opened to competition, DoT and MTNL were joined by private operators but not in all parts of the country. By mid-2001, all six of the private operators in the basic segment had started operating. The number of village public telephones issued by private licensees by 2002. After a recent licensing exercise in .02, there exists competition in most service
areas. However, the market is still dominated by the incumbent. In December 2002, the private sector provided approximately 10 million telephones in fixed, WLL (Wireless Local Loop) and cellular lines compared to 0.88 million cellular lines in March 1998 (DoT Annual Report, 2002). 72 per cent of the total private investment in telecom has been in cellular mobile services followed by 22 percent in basic services. After the recent changes, the stage is now set for greater competition in most service areas for cellular mobile over time, the rise in coverage of cellular mobile will imply increased competition even for the basic service market because of competition among basic and cellular mobile services.

**Tele-density & Village Public Phones (VPTS)**

India's rapid population increase coupled with its progress in telecom provision has landed India's telephone network in the sixth position in the world and second in Asia (ITU). The much publicized statistic about telecom development in India is that in the last five years, the lines added for basic services is 1.5 times those added in the last five decades! The annual growth rate for basic services has been 22 percent and over 100 percent for internet and cellular services. As Dossani (2002) argues, the comparison of teledensity of India with other regions of the world should be made keeping in mind the affordability issues. Assuming households have a per capita income of $350 and are willing to spend 7 percent of that total income on communications, then only about 1.6 percent of households will be able to afford $30 (for a $1000 investment per line). Teledensity has risen to 4.9 phones per 100 persons in India compared to the average 7.3 mainlines per 100 people around the world. The government has made efforts to connect villages through village public telephones (VPT) and Direct Exchange Lines (DEL). This coverage increased from 4.6 lakhs in March 2002 to 5.10 lakhs in December 2002 for VPT and from 90.1 lakhs in March to 106.6 lakhs in December 2002 for DELs. BSNL has been mainly responsible for providing VPTs; more than 84 percent of the villages were connected by 503610 VPTs with private sector also providing 7123 VPTs. The overall telecom growth rate is likely to be high for some years, given the increase in demand as income levels rise and as the share of services in overall GDP increases. The growth rate will be even higher due to the price decrease resulting from a reduction in
cost of providing telecom services. A noteworthy feature of the growth rate is the rapid rate at which the subscriber base for cellular mobile has increased in the last few years of the 1990s, which is not surprising in view of the relatively lower subscriber base for cellular mobile.

**Foreign Participation**

India has opened its telecom sector to foreign investors up to 100 percent holding in manufacturing of telecom equipment, internet services, and infrastructure providers (email and voice mail), 74 percent in radio-paging services, internet (international gateways) and 49 percent in national long distance, basic telephone, cellular mobile, and other value added services (FICCI, 2003). Since 1991, foreign direct investment (FDI) in the telecom sector is second only to power and oil - 858 FDI proposals were received during 1991-2002 totalling Rs. 56,279 crores (DoT Annual Report, 2002). Foreign investors have been active participants in telecom reforms even though there was some frustration due to initial dithering by the government. Until now, most of the FDI has come in the cellular mobile sector partly due to the fact that there have been more cellular mobile operators than fixed service operators. For instance, during the period 1991-2001, about 44 percent of the FDI was in cellular mobile and about 8 percent in basic service segment. This total FDI includes the categories of manufacturing and consultancy and holding companies.

**Tariff-Setting**

An essential ingredient of the transition from a protected market to competition is the alignment of tariffs to cost-recovery prices. In basic telecom for example, pricing of the kind that prevailed in India prior to the reforms, led to a high degree of cross-subsidization and introduced inefficient decision-making by both consumers and service-providers.

Traditionally, DoT tariffs cross-subsidized the costs of access (as reflected by rentals) with domestic and international long distance usage charges (Singh et. al. 1999). Therefore, re-balancing of tariffs - reducing tariffs that are above costs and increasing those below costs - was an essential pre-condition to promoting competition among different service providers and efficiency in general. TRAI issued its first directive
regarding tariff-setting following NTP 99 aimed at re-balancing tariffs and to user in an era of competitive service provision. Subsequently, it conducted periodic reviews and made changes in the tariff levels, if necessary. Re-balancing led to a reduction in cross-subsidization in the fixed service sector. Cost based pricing, a major departure from the pre-reform scenario, also provides a basis for making subsidies more transparent and better targeted to specific social objectives.

Service Quality

One of the main reasons for encouraging private participation in the provision of infrastructure rests on its ability to provide superior quality of service. In India, as in many developing countries, low tele-density resulted in great emphasis being laid on rapid expansion often at the cost of quality of service. One of the benefits expected from the private sector's entry into telecom is an improvement in the quality of service to international standards. Armed with financial and technical resources, and greater incentive to make profits, private operators are expected to provide consumers value for their money. Telephone faults per 100 main lines came down to 10.32 and 19.14 in Mumbai and Delhi respectively in 2002-03 compared to 11.72 and 26.6 in 1997-98. Quality of service was identified as an important reform agenda and TRAI has devised QOS (Quality of Service) norms that are applicable across the board to all operators (Singh et. al. 99).

1.1.9 Pre Reform Period & Telecommunication In India

Before 1990's Telecommunication services in India were complete government Monopoly - the Department of Telecommunication (DoT). Government also retained the rights for manufacturing of Telecommunication equipments. MTNL and VSNL were created in the year 1986. Early 1990's saw initial attempts to attract private investment. Telecommunication equipment manufacturing was delicensed in the year 1991. A notable revolution has occurred in the telecom sector. In the pre reforms era, this was entirely in the hands of the central government and due to lack of competition, the call charges were quite high. Further, due to lack of funds with the government, the government could never meet the demand for telephones. In fact, a person seeking a telephone connection had to wait for years before he could get a telephone connection. The service rendered by
the government monopoly was also very poor. Wrong billing, telephones lying dead for
many days continuously due to slackness on the part of the telecom staff to attend to
complaints, cross connections due to faulty / ill maintained telephone lines, obsolete
instruments and machinery in the telephone department were the order of the day in the
pre reforms era.

Today, there are many players in the telecom sector. The ultimate beneficiary has been
the consumer. Prices of services in this sector have fallen drastically. Telephone
connections are today affordable to everyone and are also easily available. Gone are the
days, when one had to wait for years to get a telephone connection. The number of
telephone connections which was only 2.15 million (fixed lines) in 1981 increased to
5.07 million (fixed lines) in 1991. as in 2003), there are 54.62 million telephone
connections of which 41.33million are fixed line telephone connections, 12.69 million are
cellular mobiles and the remaining 0.60 million are WLL telephones as in 2003. Wireless
in Local Loop (WLL) telephones and cellular mobile telephones were unknown in India a
few years ago. Cell phones charges have come down so much that today one can see even
a common man going around with a cell phone in his hand. The private companies are
giving various incentives to attract customers, a situation which is entirely opposite to
the conditions prevailing in the pre reforms era when one had to wait for years to get a
telephone connection. The first step toward deregulation and beginning of liberalization
and private sector participation was the announcement of National Telecom Policy
1994. NTP 1994, for the first time, allowed private/foreign players to enter the 'basic' and
the new cellular mobile section. FDI up to 49% of total equity was also all owed in these
sectors. The policy allowed one private service provider to compete in basic services with
the incumbent DoT in each DoT internal circle. It allowed duopoly in cellular mobile
services in each circle. As part of the implementation of the NTP 94, licenses were issued
against license fees through a bidding process. This policy initiated the setting up of an
independent regulator—the Telecom Regulatory Authority of India (TRAI), which was
established in 1997. The main objective of TRAI is to provide an effective regulatory
framework to ensure fair competition while, at the same time, protect the interest of the
consumers. Liberalization and reforms in Telecom sector since early 1990's till date are briefed below:

1991-92:
2. Telecom Manufacturing Equipment license was delicensed in 1991.
3. Automatic foreign collaboration was permitted with 51 per cent equity by the collaborator.

1992-93:
Value added services were opened for private and foreign players on franchise or license basis. These included cellular mobile phones, radio paging, electronic mail, voice mail, audio text services, video text services, data services using VSAT.s, and video conferencing.

1994-95:
2. Foreign equity participation up to 49 per cent was allowed in basic telecom services, radio paging and cellular mobile. For value added services the foreign equity cap was fixed at 51 percent.
3. Eight cellular licenses for four metros were finalized.

1996-97:
1. TRAI was set up as an autonomous body to separate the regulatory functions from policy formulations and operational functions.
2. Coverage of the term “infrastructure” expanded to include telecom to enable the sector to avail of fiscal incentives such as tax holiday and concessional duties.
3. An agreement between Department of Telecommunication (DoT) and financial institutions to facilitate funding of cellular and basic telecom projects.
4. External Commercial Borrowing (ECB) limits on telecom projects made flexible with an increased share from 35 per cent to 50 per cent of total project cost.
5. Internet Policy was finalized.
1998-99:
FDI up to 49 per cent of total equity, subject to license, permitted in companies providing Global Mobile Personal Communication (GMPC) by satellite services.

1999-2000:
1. National Telecom Policy 1999 was announced which allowed multiple fixed Services operators and opened long distance services to private operators.
2. TRAI reconstituted: clear distinction was made between the recommendatory and regulatory functions of the Authority.
3. DOT/MTNL was permitted to start cellular mobile telephone service.
4. To separate service providing functions from policy and licensing functions, Department of Telecom Services was set up.
5. A package for migration from fixed license fee to revenue sharing offered to exist cellular and basic service providers.
6. First phase of re-balancing of tariff structure started. STD and ISD charges were reduced by 23 per cent on an average.
7. Voice and data segment was opened to full competition and foreign ownership increased to 100 per cent from 49 per cent previously.

2000-01:
1. TRAI Act was amended. The Amendment clarified and strengthened the recommendatory power of TRAI, especially with respect to the need and timing of introduction of new services provider, and in terms of licenses to a services provider.
2. Department of Telecom Services and Department of Telecom operations corporatized by creating Bharat Sanchar Nigam Limited.
3. Domestic long distance services opened up without any restriction on the number of operators.
4. Second phase of tariff rationalization started with further reductions in the long distance STD rates by an average of 13 per cent for different distance slabs and ISD rates by 17 per cent.
5. Internet Service Providers were given approval for setting up of International Gateways for Internet using satellite as a medium in March 2000.
6. In August 2000, private players were allowed to set up international gateways via the submarine cable route.

7. The termination of monopoly of VSNL in International Long Distance services was antedated to March 31, 2002 from March 31, 2004.

2001-02:

1. Communication Convergence Bill, 2001 was introduced in August 2001.

2. Competition was introduced in all services segments. TRAI recommended opening up of market to full competition and introduction of new services in the telecom sector. The licensing terms and conditions for Cellular Mobile were simplified to encourage entry for operators in areas without effective competition.

3. Usage of Voice over Internet Protocol permitted for international telephony service.

4. The five-year tax holiday and 30 per cent deduction for the next five years available to the telecommunication sector till 31st March 2000 was reintroduced for the units commencing their operations on or before 31st March 2003. These concessions were also extended to internet services providers and broadband networks.

5. Thirteen ISP's were given clearance for commissioning of international gateways for Internet using satellite medium for 29 gateways.


7. National Long Distance Service was opened up for unrestricted entry with the announcement of guidelines for licensing NLD operators. Four companies were issued Letter of Intent (LOI) for National Long Distance Service of which three licenses have been signed.

8. The basic services were also opened up for competition. 33 Basic Service licenses (31 private and one each to MTNL and BSNL) were issued up to 31st December 2001.

9. Four cellular operators, one each in four metros and thirteen were permitted with 17 fresh licenses issued to private companies in September/October 2001. The cell phone providers were given freedom to provide, within their area of operation, all types of mobile services equipment, including circuit and/or package switches that meet the
relevant International Telecommunication Union (ITU)/ Telecom Engineering Centre (TEC) standards.

10. Wireless in Local Loop (WLL) was introduced for providing telephone connection in urban, semi-urban and rural areas.

11. Disinvestment of PSU’s in the telecom sector was also undertaken during the year. In February 2002, the disinvestment of VSNL was completed by bringing down the government equity to 26 per cent and the management of the company was transferred to Tata Group, a strategic partner. During the year, HTL was also disinvested.

12. Government allowed CDMA technology to enter the Indian market.

13. Reliance, MTNL and Tata were issued licenses to provide the CDMA based services in the country.

14. TRAI recommended deregulating regulatory intervention in cellular tariffs, which meant that operators need no longer have prior approval of the regulator for implementing tariff plans except under certain conditions.

2002-03;

1. International long distance business opened for unrestricted entry.


3. TRAI finalized the System of Accounting Separation (SAS) providing detailed accounting and financial system to be maintained by telecom service providers.

2003-04;

1. Unified Access Service Licenses regime for basic and cellular services was introduced in October 2003. This regime enabled services providers to offer fixed and mobile services under one license. Consequently 27 licenses out of 31 licenses converted to Unified Access Service Licenses.

2. Interconnection Usage Charge regime was introduced with the view of providing termination charge for cellular services and enable introduction of Calling Party Pays regime in voice telephony segment.

3. The Telecommunication Interconnection Usage Charges Regulation 2003 was introduced on 29th October 2003 which covered arrangements among service providers for payment of Interconnection Usage Charges for Telecommunication Services and
covered Basic Service that includes WLL (M) services, Cellular Mobile Services, and Long Distance Services (STD/ ISD) throughout the territory of India.

4. The Universal Service Obligation fund was introduced as a mechanism for transparent cross subsidization of universal access in telecom sector. The fund was to be collected through a 5 percent levy on the adjusted gross revenue of all telecom operators.

5. Broadcasting notified as Telecommunication services under Section 2(I) (k) of TRAI Act.

**2004-05:**

1. Budget 2004-05 proposed to lift the ceiling from the existing 49 percent to 74 per cent as an incentive to the cellular operators to fall in line with the new unified licensing norm.

2. 'Last Mile' linkages permitted in April 2004 within the local area for ISP's for establishing their own last mile to their customers.

3. Indoor use of low power equipments in 2.4 GHz band de-licensed from August 2004.

4. Broadband Policy announced on 14th October 2004. In this policy, broadband had been defined as an "always-on" data connection supporting interactive services including internet access with minimum download speed of 256 kbps per subscriber.

5. The Telecommunications (Broadcasting and Cable Services) Interconnection Regulation 2004 was introduced on 10th December 2004.

6. BSNL and MTNL launched broadband services on 14th January 2005.

7. TRAI announced the reduction of Access Deficit Charge (ADC) by 41 percent on ISD calls and by 61 per cent on STD calls which were applicable from 1st February 2005.

**2005-2006:**

1. Budget 2005-2006 cleared a hike in FDI ceiling to 74 per cent from the earlier limit of 49 per-cent. 100 per cent FDI was permitted in the area of telecom equipment manufacturing and provision of IT enabled services.

2. Annual license fee for National Long Distance (NLD) as well as International Long Distance (ILD) licenses reduced to 6 per cent of Adjusted Gross Revenue (AGR) with effect from 1st January 2006.
3. BSNL and MTNL launched the 'One-India Plan' with effect from 1st March 2006 which enable the customers of BSNL and MTNL to call from one end of India to other at the cost of Rs. 1 per minute, any time of the day to phone.

4. TRAI fixed Ceiling Tariff for International Bandwidth, Ceiling Tariff for higher capacities reduced by about 70 per cent and for lower capacity by 35 percent.

5. Regulation on Quality of Service of Basic and Cellular Mobile Telephone Services 2005 introduced on 1st July 2005.

6. BSNL announced 33 per cent reduction in call charges for all the countries for international calls.


1.1.10 Future Growth Opportunities of Indian Telecom Sector
As per TRAI, two other associated aspects for market growth are availability of spectrum and availability of resources for network rollout and expansion. The government is currently looking into these two areas. The 79% hike in FDI has been cleared by the government to ensure continuous flow of investments to expand the reach of the mobile operators. To realize full market potential and achieve the forecasts, telecom operators have to work on a segmented approach and focus on the five key strategies given below:

- Mobile in the hand of every urban youth (age group 15 to 24 years).
- Mobile in the hand of every executive/businessman/ skilled worker.
- Mobile in every household with income above Rs. 4000.
- Mobile penetration in every town/village, with a population of over 3,000.
- Mobile Phones affordable and available wherever mobile services available.

(Source: www.indiamba.com/Faculty/FC701/fc701.html)

1.1.11 Growth of Telecom Sector in Punjab
However, it is not going to be easy and needs support in several areas:

- To ensure that every youth has a mobile, service providers have to offer services like SMS/MMS at low cost/free and ensure that the total mobile bill for the youth does not cross Rs.300-400 per month, which is the maximum this segment of customers can afford from their pocket money.
• In the same way, for executives/businessmen, to tap the full potential, it is essential that services like Closed User Group, National Closed User Groups, low STD/ISD rates, fixed cost for Network calling etc., are offered so that they can lap up the services and go mobile soon.

• To ensure that every household has a mobile connection, it is essential that the utility of mobile phones is increased through better STD and ISD rates vis-à-vis landline, friends and family offers, special rates to landlines etc., with easy/low deposit schemes to acquire these facilities.

• To ensure that the penetration targeted in towns and villages is achieved, service providers have to invest in network expansion and reach out on priority; to exploit the untapped potential in these markets.

• To expand the network to a large number of towns and villages by all the operators, network sharing should be allowed by BSNL and the government should allow 74% FDI in mobile companies for easy access to funds.

1.2 ABOUT MOBILE COMPANIES

1.2.1 Bharat Sanchar Nigam Limited (BSNL)

Bharat Sanchar Nigam Ltd. formed in October, 2000, is World’s 7th largest Telecommunications Company providing comprehensive range of telecom services in India: Wireline, CDMA mobile, GSM Mobile, Internet, Broadband, Carrier service, MPLS-VPN, VSAT, VoIP services, IN Services etc. Presently it is one of the largest and leading public sector units in India.

BSNL has installed Quality Telecom Network in the country and now focusing on improving it, expanding the network, introducing new telecom services with ICT applications in villages and wining customer’s confidence.

Today, it has about 46 million line basic telephone capacity, 8 million WLL capacity, 52 Million GSM Capacity, more than 38302 fixed exchanges, 46565 BTS, 3895 Node B (3G BTS), 287 Satellite Stations, 614755 Rkm of OFC Cable, 50430 Rkm of Microwave Network connecting 602 Districts, 7330 cities/towns and 5.6 Lakhs villages.

BSNL is the only service provider, making focused efforts and planned initiatives to bridge the Rural-Urban Digital Divide ICT sector. In fact there is no telecom operator in
the country to beat its reach with its wide network giving services in every nook & corner of country and operates across India except Delhi & Mumbai. Whether it is inaccessible areas of Siachen glacier and North-eastern region of the country. BSNL serves its customers with its wide bouquet of telecom services. BSNL is numerous operator of India in all services in its license area. The company offers vide ranging & most transparent tariff schemes designe to suite every customer. BSNL cellular service, CellOne, has 55,140,282 2G cellular customers and 88,493 3G customers as on 30.11.2009. In basic services, BSNL is miles ahead of its rivals, with 35.1 million Basic Phone subscribers i.e. 85 per cent share of the subscriber base and 92 percent share in revenue terms. BSNL has more than 2.5 million WLL subscribers and 2.5 million Internet Customers who access Internet through various modes viz. Dial-up, Leased Line, DIAS, Account Less Internet(CLI). BSNL has been adjudged as the NUMBER ONE ISP in the country.

BSNL has set up a world class multi-gigabit, multi-protocol convergent IP infrastructure that provides convergent services like voice, data and video through the same Backbone and Broadband Access Network. At present there are 0.6 million Data One broadband customers. The company has vast experience in Planning, Installation, network integration and Maintenance of Switching & Transmission Networks and also has a world class ISO 9000 certified Telecom Training Institute. Scaling new heights of success, the present turnover of BSNL is more than Rs.351, 820 million (US $ 8 billion) with net profit to the tune of Rs.99, 390 million (US $ 2.26 billion) for last financial year. The infrastructure asset on telephone alone is worth about Rs.630, 000 million (US $ 14.37 billion).

**BSNL - Growth & Development**

BSNL (then known as Department of Telecom) had been a near monopoly during the socialist period of the Indian economy. During this period, BSNL was the only telecom service provider in the country (MTNL was present only in Mumbai and New Delhi). During this period BSNL operated as a typical state-run organization, inefficient, slow, bureaucratic, and heavily unionized. As a result subscribers had to wait for as long as five years to get a telephone connection.
The corporation tasted competition for the first time after the liberalization of Indian economy in 1991. Faced with stiff competition from the private telecom service providers, BSNL has subsequently tried to increase efficiencies itself. Dot veterans, however, put the onus for the sorry state of affairs on the Government policies, where in all state-owned service providers were required to function as mediums for achieving egalitarian growth across all segments of the society.

The corporation (then Dot), however, failed miserably to achieve this and India languished among the most poorly connected countries in the world. BSNL was born in 2000 after the corporatization of Dot. The efficiency of the company has since improved. However, the performance level is nowhere near the private players. The corporation remains heavily unionized and is comparatively slow in decision making and implementation. Though it offers services at lowest tariffs, the private players continue to notch up better numbers in all areas, years after year. BSNL has been providing connections in both urban and rural areas. Pre-activated Mobile connections are available at many places across India.

BSNL has also unveiled cost-effective broadband internet access plans (Data One) targeted at homes and small businesses. At present BSNL enjoys around 60% of market share of ISP services. 2007 has been declared as "Year of Broadband" in India and BSNL is in the process of providing 5 million Broadband connectivity by the end of 2007.

BSNL has upgraded existing Dataone (Broadband) connections for a speed of up to 2 Mbit/s without any extra cost. This 2 Mbit/s broadband service is being provided by BSNL at a cost of just US$ 11.7 per month (as of 21/07/2008 and at a limit of 2.5GB monthly limit with 0200-0800 hrs as no charge period). Further, BSNL is rolling out new broadband services such as triple play.

BSNL is planning to increase its customer base to 108 million customers by 2010. With the frantic activity in the communication sector in India, the target appears achievable. BSNL is a pioneer of rural telephony in India. BSNL has recently bagged 80% of US$ 580 m (INR 2,500 crores) Rural Telephony project of Government of India.

On the 20th of March, 2009, BSNL advertised the launch of BlackBerry services across its Telecom circles in India. The corporation has also launched 3G services. Bharat
Sanchar Nigam Limited, the largest Public Sector Undertaking of the Nation, is certainly on a financial ground that's sound. The Company has a net worth of Rs. 88,634 crores (US$ 17.40 billion), authorized equity capital of Rs. 10,000 crores (US $ 1.96 billion), Paid up Equity Share Capital of Rs. 5,000 crores (US $ 0.98 billion) and Revenues is Rs. 35,812 crores (US $ 7.03 billion) in 2008-09. (Note: 1 US $ = 50.9500 INR as on 31-03-2009).

BSNL-Area of Operation

The world class services offered by the BSNL: The Plain old, Countrywide telephone Service through 32,000 electronic exchanges. Digitalized Public Switched Telephone Network (PSTN) with a host of Phone Plus value additions. BSNL launched Data One broadband service in January 2005 which shall be extended to 198 cities very shortly. The service is being provided on existing copper infrastructure on ADSL2 technology. The minimum speed offered to the customer is 256 Kbps at Rs. 250/- per month only. Subsequently, other services such as VPN, Multicasting, Video Conferencing, Video-on-Demand, Broadcast application etc will be added. Keeping the global network of Networks networked, the countrywide Internet Services of BSNL under the brand name BSNL BROADBAND includes Internet dial up/ Leased line access, CLI based access (no account is required) and DIAS service, for web browsing and E-mail applications. You can use your dialup sancharnet account from any place in India using the same access no =172233′, the facility which no other ISP has. BSNL has customer base of more than 1.7 million for sancharnet service. BSNL also offers Web hosting and co-location services at very cheap rates. ISDN Integrated Service Digital Network Service of BSNL utilizes a unique digital network providing high speed and high quality voice, data and image transfer over the same line. It can also facilitate both desktop video and high quality video conferencing. Intelligent Network ; Intelligent Network Service offers value-added services, such as:

- Free phone service [FPH]
- India Telephone card [Prepaid Card]
- Account Card Calling [ACC]
- Virtual Private Network [VPN]
• Tele-Voting
• Premium Rae Service [PRM]
• Universal Access Number [UAN] and more.

India’s x.25 based packet Switched Public Data Network is operational in 104 cities of the country. It offers x.25 x.28 leased, x.28 Dial up (PSTN) Connection) and frame relay services.

Leased Line; BSNL provides leased lines for voice and data communication for various applications on point to point basis. It offers a choice of high, medium and low speed leased data circuits as well as dial-up lines.

Bandwidth is available on demand in most cities. Managed Leased Line Network (MLLN) offers flexibility of providing circuits with speeds of nx64 kbps up to 2mbps, useful for Internet leased lines and International Principle Leased Circuits (IPLCs).

Cellular Mobile Service; BSNL’s GSM cellular mobile service Cellone has a customer base of over 5.2 million. CellOne provides all the services like MMS, GPRS, Voice Mail, E-mail, Short Message Service (SMS) both national and international, unified messaging service (send and receive e-mails) etc. You can use CellOne in over 160 countries worldwide and in 270 cellular networks and over 1000 cities/towns across India. It has got coverage in all National and State Highways and train routes. CellOne offers all India Roaming facility to both pre-paid and post-paid customers (including Mumbai & Delhi).

WLL; This is a communication system that connects customers to the Public Switched Telephone Network (PSTN) using radio frequency signals as a substitute for conventional wires for all or part of the connection between the subscribers and the telephone exchange. Countrywide WLL is being offered in areas that are non-feasible for the normal network. Helping relieve congestion of connections in the normal cable/wire based network in urban areas. Connecting the remote and scattered rural areas. Limited mobility without any air-time charge.

(Source: www.bsnl.co.in)

1.2.2 Tata Teleservices Limited
Tata Teleservices Limited spearheads the Tata Group’s presence in the telecom sector. Incorporated in 1996, Tata Teleservices Limited is the pioneer of the CDMA 1x
technology platform in India. It has embarked on a growth path since the acquisition of Hughes Tele.com (India) Ltd (renamed) Tata Teleservices (Maharashtra) Limited] by the Tata Group in 2002. It launched mobile operations in January 2005 under the brand Tata Indicom and today enjoys a pan-India presence through existing operations in all of India’s 22 telecom Circles. The company is also the market leader in the fixed wireless telephony market with its brand Walky. The company has recently introduced the brand Photon to provide a variety of options for wireless mobile broadband access. The company's network has been rated as the 'Least Congested' in India for last five consecutive quarters by the Telecom Regulatory Authority of India through independent surveys. Tata Teleservices Limited now also has a presence in the GSM space, through its joint venture with NTT DOCOMO of Japan, and offers differentiated products and services under the Tata DOCOMO brand name. Tata DOCOMO arises out of the Tata Group's strategic alliance with Japanese telecom major NTT DOCOMO in November 2008. Tata DOCOMO has received a pan-India license to operate GSM telecom services—and has also been allotted spectrum in 18 telecom Circles. The company has rolled out GSM services in 14 of India’s 22 telecom Circles in a quick span of under six months. The company plans to launch pan-India operations by the end of FY 2009-10. Tata DOCOMO marks a significant milestone in the Indian telecom landscape, and has already redefined the very face of telecoms in India, being the first to pioneer the per-second tariff option part of its Pay for What You Use‘ pricing paradigm. Tokyo-based NTT DOCOMO is one of the world’s leading mobile operators—in the Japanese market, the company is the clear market leader, used by over 50 per cent of the country's mobile phone users. Today, Tata Teleservices Limited, along with Tata Teleservices (Maharashtra) Limited, serves over 58 million customers in more than 410,000 towns and villages across the country, with a bouquet of telephony services encompassing mobile services, wireless desktop phones, public booth telephony, wire line services and enterprise solutions. In December 2008, Tata Teleservices Limited announced a unique reverse equity swap strategic agreement between its telecom tower subsidiary, Wireless TT Info-Services Limited, and Quippo Telecom Infrastructure Limited— with the combined entity kicking
off operations in early 2009 with 18,000 towers, thereby becoming the largest 
independent entity in this space—and with the highest tenancy ratios in the industry. The 
WTTIL-Quippo combine is targeting over 50,000 towers by the end of FY 2010-11.

Ratan N. Tata was appointed as the Chairman of Tata Sons Limited in 1991. He is the 
Chairman of several of the leading Tata group companies including Tata Steel, Tata 
Motors, Tata Power, Tata Consultancy Services, Tata Tea, Tata Chemicals, Indian Hotels 
Limited and TTSL. He is also the Chairman of two of the largest private sector promoted 
philanthropic trusts in India. During his tenure, the Group's revenues have grown over 
six-fold to Rs. 80,000 crore ($ 17.8 bn.). Mr. Tata's association with Tata group 
companies began in December 1962. He was assigned to various companies before being 
appointed Director-in-Charge of the National Radio and Electronics Company Limited 
(NELCO) in 1971. He was named Chairman 
of Tata Industries Limited in 1981, where he was responsible for transforming the 
company into a group strategy think-tank, and was also responsible for the promotion of 
new ventures in high technology businesses.

He is associated with various organizations in India and abroad, including through 
Chairmanship of the Government of India's Investment Commission, and membership of 
the Central Board of the Reserve Bank of India, the International Advisory Boards of 
Mitsubishi Corporation, the American International Group, J.P.Morgan Chase, the 
International Investment Council set up by the President of the Republic of South 
Africa, the Asia Pacific Advisory Committee and membership of the Board of Directors 
of the New York Stock Exchange. He serves on the Board of Trustees of the Ford 
Foundation and the Programme Board of the Bill and Melinda Gates Foundations' India 
AIDS Initiative He also chairs the Advisory Board of RAND's Center for Asia Pacific 
Policy. Mr. Tata received a Bachelor of Science degree in Architecture from Cornell 
University in 1962. He worked briefly with Jones and Emmons in Los Angeles, 
California before returning to India in late 1962. He completed the Advanced 
Management Program at Harvard Business School in 1975. The Government of India 
honored Mr. Tata with one of its highest civilian awards, the Padma Bhushan, on 
Republic Day, January 26, 2000. He has also been conferred an honorary doctorate in
Business Administration by the Ohio State University, an honorary doctorate in Technology by the Asian Institute of Technology, Bangkok, and an honorary doctorate in Science by the University of Warwick.

**TATA-Growth & Development**

TTSL pioneered the CDMA 3G1x technology platform in India. The company has established a robust and reliable telecom infrastructure that ensures quality in its services. It has partnered Motorola, Ericsson, Lucent and ECI Telecom to deploy a reliable and technologically advanced network. TTSL's telephony services include mobile services, fixed wireless phones (FWP), public booth telephony and wire line services. Among its value-added services are voice portal, roaming, post-paid internet services, three-way conferencing, group calling, wi-fi internet services and data services.

The company has entered the 'prepaid' segment by launching, under the Tata Indicom brand, its '100 % Sacchai True Paid' offering across all its circles. Tata Indicom also offers a collection of 1,000 mobile games, the latest handsets, and new voice and data services such as BREW games, picture messaging, polyphonic ring tones, and interactive applications. TTSL, along with its subsidiary, Tata Teleservices (Maharashtra), currently serves 4.58 million customers in over 1,400 towns in India.

**TATA in Telecom**

Tata Teleservices Limited is India's leading private telecom service provider. The company offers integrated telecom solutions to its customers under the Tata Indicom brand, and uses the latest CDMA 3G1X technology for its wireless network. Currently operating in 6 states i.e. Delhi, Maharashtra, Karnataka, Andhra Pradesh, Tamil Nadu and Gujarat, the company has a customer base of over 1.3 million. With a planned nationwide footprint across the country, Tata Teleservices has applied for licenses for 11 more circles, which include Punjab, Haryana, UP (West), Kerala, West Bengal, Rajasthan, Madhya Pradesh, Bihar, Orissa, Himachal Pradesh and Uttar Pradesh (East). TATA Teleservices (Maharastra) Ltd. (TTML) (Formerly Hughes Tele.com (India) Ltd.), is India's premier broadband network based telecommunication service provider. TTML
is licensed to provide telecommunication services in the western Indian states of Maharashtra (which includes Mumbai, India's commercial hub) & Goa. TTML is rapidly expanding its network and currently provides telecommunication services to over 461,000 business and residential customer lines in 10 cities and some villages in rural and remote areas in Maharashtra & Goa. In addition to its strong product offerings in the conventional voice telephony services, TTML provides a full suite of broadband services like secure Internet access, Managed Data Network services and Managed Leased Line services, focused on communication-intensive customers.

Videsh Sanchar Nigam Limited is India's leading provider of International Telecommunications and Internet Services. As the country's leader in International Long Distance services and with a strong pan-India National Long Distance presence, VSNL is the leader in the Corporate Data Market in the country today with a strong service offering covering IPLCs, ILLs, Frame Relay, ATM and more recently, MPLS based IP-VPN services. With established relations with over 80 carriers across the globe, VSNL has a strong infrastructure base that covers multiple gateways, earth stations and submarine cable systems. Tata-owned VSNL is now rapidly growing its retail and corporate presence under the Tata Indicom brand through its products like dial-up Internet, net telephony and calling cards and has a subscriber base of over 6.5 lakh customers. VSNL also offers a host of other valued added services that include Television / Video uplinking, Program transmission services, Frame relay services and Inmarsat services.

VSNL is in the process of expanding its global presence and is setting up operations in Sri Lanka and the United States of America. VSNL is listed across all the major stock exchanges in India and also has its ADRs listed on the New York Stock Exchange.

Tata Internet Services Limited (TISL) leads the Tata Group's foray into the Internet. Leveraging the group's considerable strengths in telecom, software services and domain knowledge in multiple industries, TISL focuses on key elements of the value chain in the consumer and corporate data services spaces. On the consumer front, the company offers Internet connectivity and operates several cyber cafés. On the corporate front, it
offers Internet connectivity, networking services and data centre-based services. TISL has invested extensively in networking and IT infrastructure, to set up one of India’s most advanced data networks, with independent and redundant domestic and international connectivity and world-class support services. We have the infrastructure. The expertise an integrated array of Internet services and solutions. And we promise you the reliability that is the hallmark of the Tata group.

Tata Internet Services Limited leads the Tata group's foray into the Internet. It leverages the group's considerable strengths in IT, telecom, software services and domain knowledge in different end-user industries to position itself at strategic points in the Internet value chain.

On the consumer front there is Tatanova, the Smart ISP, now operational in five cities. Tatanova's superior service is showcased in our cybercafés across the country. For the corporate customer, Tata Internet offers Internet Connectivity, IP-based Virtual Private Networks, standard or customized Internet Data Centre services, and a host of value-added and industry-specific solutions.

Tata Internet has made extensive investments in networking and IT infrastructure from the world's leading companies to set up one of the country's most advanced data networks with independent and redundant domestic and international connectivity. A highly specialised team of dedicated professionals provide world-class support services that make the difference. Tata Internet now looks to the future - the new integrated Internet and personal communications scenario with data, voice and video convergence.

Tata Indicom VSAT Services is a division of NELCO LTD and operates the largest private enterprise VSAT network owned by the TATA Group of companies. Tata Indicom VSAT Services provides its users with a turnkey solution for their Wide Area Networking needs including monitoring and managing their network with a 24 hour help desk and field support at most key locations throughout India.

VSAT Networks: The Right Choice, VSAT is a an acronym for Very Small Aperture Terminal, or put more simply it is a 1 to 4 meter dish on a roof linking a central hub (e.g. your Head Quarter) with all the remote offices and facilities, keeping them all in constant and immediate contact. VSATs are suitable for connecting a large number of
geographically dispersed sites to a central location. They are super efficient, point-to-multipoint communications - simple to install, instantly expandable at minimal cost, and avoid all national telecom operators.

There is no dialing, no delays and just about any type of transmission is possible: data voice, fax, video, TV, radio and of course, very high speed always-on broadband Internet. VSAT refers to a combined send/receive terminal, with a typical antenna diameter of 1 to 3.7m. VSAT networks are well suited for business applications, offering solutions for large networks with varied traffic needs. They provide very efficient point-to-multipoint communications, are easy to install, and can be expanded at very low extra cost. Any business operation with long-distance telecommunications needs find VSAT an attractive solution. With VSAT networks, there is no dialing, no response delays, no interruptions. They offer immediate accessibility and continuous high-quality transmissions. And as they are adapted for any kind of transmission, from data to voice, fax, high-speed Internet, and video, VSAT networks offer the operational flexibility needed for all information transfers, with very simple installation.

TATA-Area of Operation

• **Products and Services**

We offer CDMA wireless services (comprising of CDMA mobile and CDMA fixed wireless services) and wire-line services in the Maharashtra (including Goa) and the Mumbai metropolitan Circles, along with internet services and value added services.

• **CDMA based Mobile Services**

We provide CDMA based mobile services to our subscribers. We also offer domestic roaming to our CDMA mobile subscribers, who can avail of these services within the Maharashtra Circle and the Mumbai metropolitan Circle, and pursuant to certain arrangements with TTSL, within the 17 circles where TTSL operates. We have currently tied up with certain International Service Providers and are in the process of tying up with more international operators. We expect to commence International roaming in the near future.
We provide our CDMA mobile subscribers with short messaging services, national and international long distance services and call management services (including call forwarding and caller identification services). We also provide value added services as discussed below. The subscribers have an option to avail of the mobile services through our various post paid and pre paid schemes. The tariffs in these schemes may vary across time based on the market conditions and competitive pressures.

- **CDMA based Fixed Wireless Services**

  We provide CDMA based fixed wireless services wherein we provide subscribers with a wireless instrument with enhanced voice and data features. This service is primarily a technologically advanced substitute to the traditional wire line phone offering numerous customer friendly and technological benefits over traditional wire-line services. These include, among others, ease of providing connections, allowing portability with customer premises, absence of cable related disruptions in services and allowing telephone number portability within the service area. Fixed wireless services also allow us to provide features such as short messaging services, choice of ring tones, in-built phone book, speaker phone, LCD display and internet connectivity. Fixed wireless services are a cost efficient method of rolling out our services and we primarily target medium to high usage customers including small and medium enterprises and small office home office customers. We provide our CDMA fixed wireless subscribers with national and international long distance services and call management services (including call forwarding and caller identification services). We also provide value added services as discussed below. In addition to these voice-based services, we provide our fixed wireless customers with Internet services and intend to provide various data application services in the future.

- **Wire-line Services**

  In addition to CDMA based mobile and CDMA based fixed wireless services; we also provide traditional wire-line services. In this market segment, we focus primarily on corporate and high usage subscribers. We offer internet services to our wire-line customers and also provide TDMA fixed wireless services as part of our wire-line
services to a limited number of subscribers. We are currently the leading private operator of wire-line services in the Maharashtra and Mumbai metropolitan circles based on the number of wire-line subscribers as at 31 March 2005. We offer national and international long distance services, integrated services digital network (ISDN) services that allow data transmissions using end-to-end digital connectivity, digital subscriber line (DSL) services, videoconference services, web-conference services as well as virtual private network services for cost-effective communications within a specified user group.

- **Public Call Offices (PCOs)**
  We have deployed our Public call offices (.PCOs.) through both wire line and fixed wireless mode. PCOs form a major source of our income from wire-line services as calls from PCOs are charged on the basis of minutes of usage and typically generate higher average revenue per line. Revenues from PCOs, however, depend significantly on tariffs of national long distance and international long distance calls. While lower tariff charges on the national long distance and international long distance calls adversely affect revenues, this is partly offset by increased usage. Fixed Lines through Universal Services Obligation (USO) fund support The Company participated in an open bidding process for providing fixed phones in non-urban areas through USO fund support and won bids for Jalna, Kalyan, Nagpur, Pen and Ratnagiri LDCAs and has to provide rural DELs in 43 SDCAs. The Company had the obligation to roll out services (100 lines per telecom district), by September 2005. However, these districts were severely affects by floods in the region due to which the deadline for fulfilling the rollout was extended to December 31, 2005. The Company has duly fulfilled this rollout stipulation under this contract. The Company has a further obligation to provide lines as per demand in these SDCAs.

- **Value Added Services**
  We believe value added services are important as they offer higher revenue potential, are an important competitive differentiator and increase customer loyalty and usage. Our value added services for our CDMA mobile and CDMA fixed wireless subscribers include the following:
• Information based services. We provide national and international news headlines, sports and business, finance and securities market related news through short messaging services (.SMS.) as well as through a voice portal.

• Entertainment and communication based services. We provide entertainment and movies related news and updates, horoscope, cricket scores, electronic top ups, humor, contests, ring tone downloads, wallpapers and screensavers, entertainment guides, games, flight and train schedules through SMS as well as through a voice portal. We would also be launching services like Missed Call Alerts, Caller Ring Back tones (CRBT) etc. The Company also provides WAP based services and downloads for accessing .Tata Zone., the Company's portal for downloads.

• The Company also provides downloads for BREW enabled handsets. Transaction based services. We intend to provide our subscribers with the facility to, through our network, make airline and train reservations, pay bills and complete banking transactions.

**Internet Offerings**

The Company is a Category A (National) ISP Licensee and offers a broad range of Internet-related product offerings including DSL, post paid dial-up Internet access and content services. The company also provides Wireless Internet Connectivity through its Vdata Card facility. This card once fitted into notebook PC/Laptop, allows user to connect to the Internet, send and receive e-mails, connect to a corporate network, and make voice calls, without the need for a network cable or phone line. Since April 2005, the Company discontinued Wi-Fi Service (which was commenced in July 2003) and has agreed to transfer the Wi-Fi business and assets to Videsh Sanchar Nigam Limited

**1.2.3 Reliance Communication**

Regarded as one of the foremost corporate leaders of contemporary India, Shri Anil D. Ambani (50), the Chairman of all listed companies of the Reliance ADA Group, namely, Reliance Communications, Reliance Capital, Reliance Infrastructure, Reliance Natural Resources and Reliance Power. He is also the President of the Dhirubhai Ambani Institute of Information and Communication Technology, Gandhinagar, Gujarat. An MBA from the Wharton School of the University of Pennsylvania, Shri Ambani is
credited with pioneering several path breaking financial innovations in the Indian capital markets. He spearheaded the country's first forays into overseas capital markets with international public offerings of global depositary receipts, convertibles and bonds. Under his Chairmanship, the constituent companies of the Reliance ADA Group have raised nearly US$ 7 billion from global financial markets in a period of less than 3 years. Shri Ambani has been associated with a number of prestigious academic institutions in India and abroad. He is currently a member of: Wharton Board of Overseers, The Wharton School, USA Board of Governors, Indian Institute of Management (IIM), Ahmedabad Executive Board, Indian School of Business (ISB), Hyderabad.

In June 2004, Shri Ambani was elected as an Independent member of the Rajya Sabha – Upper House, Parliament of India, a position he chose to resign voluntarily on 29th March, 2006.

**RCOM-Business Operations**

Reliance Communications Limited (RCOM., Borrower or the Company) is the flagship Company of the Reliance Anil Dhirubhai Ambani (ADA,) Group. Rated among "Asia's Top 5 Most Valuable Telecom Companies", Reliance Communications is India's foremost and truly integrated telecommunications service provider. The Company, with a customer base of over 65 million including over 1.7 million individual overseas retail customers, ranks among the Top 10 Telecom companies in the world by number of customers in a single country. RCOM’s corporate clientele includes 2,100 Indian and multinational corporations, and over 800 global, regional and domestic carriers. Reliance Communications Limited has established a pan-India, next generation, integrated (wireless and wireline), convergent (voice, data and video) digital network that is capable of supporting best-of-class services spanning the entire communications value chain, covering over 20,000 towns and 450,000 villages. Reliance Communications owns and operates the world's largest next generation IP enabled connectivity infrastructure, comprising over 175,000 kilometers of fibre optic cable systems in India, USA, Europe, Middle East and the Asia Pacific region. On consolidated basis RCOM’s operating revenues and net profit for the 12 month period ended March 31, 2008 was Rs. 190.7 billion (USD 4,765 million) and Rs. 67.9 billion (USD 1,697 million) respectively.
On March 31, 2008, RCOM had a net worth of Rs. 290.3 billion (USD 7,254 million) and a net debt of Rs. 140.8 billion (USD 3,518 million).

Reliance communication encompasses a complete range of telecom services covering mobile and fixed line telephony. It includes broadband, national and international long distance services and data services along with an exhaustive range of value-added services and applications. Our constant endeavour is to provide an enhanced customer experience and achieve customer satisfaction by up scaling the productivity of the enterprises and individuals we serve.

Reliance Mobile (formerly Reliance India Mobile), launched on 28 December 2002, coinciding with the joyous occasion of the late Dhirubhai Ambani’s 70th birthday, was among the initial initiatives of Reliance Communications. It marked the auspicious beginning of Dhirubhai’s dream of ushering in a digital revolution in India. Today, we can proudly claim that we were instrumental in harnessing the true power of information and communication, by bestowing it in the hands of the common man at affordable rates. We endeavor to further extend our efforts beyond the traditional value chain by developing and deploying complete telecom solutions for the entire spectrum of society.

**Wireless Reliance Mobile**

With over 100 million subscribers across India, Reliance Mobile is India’s largest mobile service brand. Reliance Mobile services now cover over 24,000 towns, 6 lakh villages, and still continuing.

We have achieved many milestones in this short journey. In 2003, AC Nielsen voted Reliance Mobile (formerly Reliance India Mobile) as India’s Most Trusted Telecom Brand. In July 2003, it created a world record by adding one million subscribers in a matter of just 10 days through its Monsoon Hungama‘ offer.

What sets Reliance Mobile apart is the fact that nearly 90 per cent of our handsets are data-enabled, and can access hundreds of Java applications on Reliance Mobile World. Reliance Mobile has ushered in a mobile revolution by offering advanced multimedia handsets to the common man at very affordable rates. This innovative low pricing has increased the number of mobile phone users and its result is clearly reflected in the meteoric rise in India’s tele-density over the past four years.
Our pan-India wireless network runs on CDMA2000 1x technology, which has superior voice and data capabilities compared to other cellular mobile technologies. CDMA2000 1x is more cost-effective as it utilises the scarce radio spectrum more efficiently than other technologies do. Enhanced voice clarity, superior data speed of up to 144 kbps and seamless migration to newer generations of mobile technologies are some of its key differentiators.

**R World**

- The R World suite of Reliance Mobile is a unique Java-based application. Its uniqueness lies in the fact that it enables complex Internet application to be introduced in mobile phones effectively and quickly. R World receives over 1.5 billion page views per month from Reliance Mobile users.

- R World offers a wide array of applications that include hourly news updates, high quality headline video clips, downloadable multi-lingual ring tones, seasonal updates including festival specials, city and TV specials, exam results, astrology, mobile banking, bill payment. With over 150 data applications offering varied services - unique to any wireless service in India.

- R World is truly a treasure house of knowledge, information, entertainment and commerce.

**Corporate Governance**

Organisations, like individuals, depend for their survival, sustenance and growth on the support and goodwill of the communities of which they are an integral part, and must pay back this generosity in every way they can... his ethical standpoint, derived from the vision of our founder, lies at the heart of the CSR philosophy of the Reliance – ADA Group.

While we strongly believe that our primary obligation or duty as corporate entities is to our shareholders – we are just as mindful of the fact that this imperative does not exist in isolation; it is part of a much larger compact which we have with our entire body of stakeholders: From employees, customers and vendors to business partners, eco-system, local communities, and society at large. We evaluate and assess each critical business decision or choice from the point of view of diverse stakeholder interest, driven by the
need to minimise risk and to pro-actively address long-term social, economic and environmental costs and concerns.

For us, being socially responsible is not an occasional act of charity or that one-time token financial contribution to the local school, hospital or environmental NGO. It is an ongoing year-round commitment, which is integrated into the very core of our business objectives and strategy.

Reliance – ADAG continually reviews corporate governance best practices to ensure that they reflect global developments. It takes feedback into account, in its periodic reviews of the guidelines to ensure their continuing relevance, effectiveness and responsiveness to the needs of local and international investors and other stakeholders.

Our codes of conduct and business policies encompass the following areas:

- Values and commitments
- Code of ethics
- Business policies
- Ethics management
- Prevention of sexual harassment
- Policy on insider trading

**RCOM-Business Activity of the Company**

**Market leadership position**

RCOM is among the top two providers of wireless communication services in India with a subscriber base of more than 65 million wireless subscribers. RCOM is second largest seller of mobile handsets/devices in the country, and the largest service provider engaged in this activity. Due to its unique strength in high speed wireless data transmission, RCOM has 65% market share of the data card and USB modem market for laptops and PCs. In addition, RCOM is the largest PCO operator in the private sector with over 50% market share. RCOM has achieved this leadership status in the Indian telecom market within 4 years of the commercial national commercial launch of its CDMA based services. The Company has the distinction of being EBITDA positive since the first year of its operations. This rapid build-up of the subscriber base has been achieved by leveraging the telecom network and national retail presence through nearly 2,000
exclusive Reliance World and Reliance Express stores with a presence in over 700 Indian cities. Together with preferred retailers, RCOM has a branded retail presence in over 1,300 towns. Apart from the growth witnessed in the wireless telecom market, RCOM is increasing its presence in the broadband segment too. The enterprise broadband services were launched in the first half of 2005, focusing on the top 40 cities of India. RCOM has leveraged its existing metro fibre optic network to connect with customers in select buildings. As on 31 March 2008, 787,567 buildings are directly connected and 1,031,000 access lines had been activated. RCOM has established an enterprise customer base that includes 850 of the top Indian enterprise and MNCs, rapidly expanding its customer in the SME segment too. RCOM is the market leader in the IDC services (Reliance Data Centre) with over 62% market share and has an enterprise customer base that includes 800 of the top 1,000 Indian enterprises and MNCs. RCOM is also the leading provider of MPLS-VPN and Centrex solutions. RCOM entered the long distance market in India in mid 2003 and has become the largest carrier of international voice minutes, with a market share of 35% for International Long Distance (ILD.) wholesale inbound traffic. In addition to this RCOM has over 1.5 million customers for the Reliance India Call service which accounts for 40% of the total retail market calls made from the United States to India.

Largest Capacity and Superior Network in India
Company will soon be present in over 23,000 towns though its CDMA network and over 8,000 towns through GSM network. RCOM’s network will also cover over 600,000 villages and address 90% of India’s population. RCOM has also commenced setting up of GSM network in the 14 additional circles where it has received requisite Government approvals and spectrum to roll-out GSM. RCOM’s national inter-city long distance network is the largest next generation network in India, with over 110,000 route kilometers of ducted fibre optic cables, which is being further expanded to 135,000 route kilometers. RCOM has a totally unique asset in over 25,000 route kilometers of ducted fibre optic cables installed in the leading cities in India. The entire inter-city and metro fibre optic backbone network is deployed in a ring and meshes architecture and is MPLS.
enabled. The Reliance Data Network has over 180 MPLS integrated network nodes. CDMA is a spread spectrum technology where the information at a standard rate of 9.6 Kbits per second is spread on 1.23 MHz bandwidth. RCOM’s network can support 2.3 times more simultaneous calls per MHz as compared to that of other GSM operators.

Integrated telecom approach

The next generation telecom network, capable of supporting voice and data, is being leveraged by RCOM to offer a full suite of telecommunications services ranging from wireless to wireline including voice, data and broadband. The guiding strategy followed by RCOM in the network design and implementation has been the .follow-the-demand. principle. The superior and extensive telecom network is the basis for (i) an integrated telecom approach providing a full suite of telecommunications services ranging from wireless to wireline including voice, data and broadband; (ii) providing affordable and high quality services based on technological leadership; and (iii) enabling the RCOM Group to offer innovative communications products and services catering to evolving customer needs.

Recent Developments

On January 11, 2008, the Company received start-up spectrum to launch nationwide GSM services under its existing Unified Access Service License (UASL). RCOM has been granted GSM spectrum in 14 service areas. The DOT had also made necessary amendments to Unified Access Service Licenses (UASL) of Reliance Telecom Limited (RTL), wholly owned subsidiary of the RCOM, to enable RTL to offer CDMA services in Assam and North East Service Area in addition to existing GSM services and made allotment of start up spectrum to RTL for providing CDMA services in Assam and North East. RCOM is planning to participate in the upcoming 3G auction and would like to bid for nationwide 3G frequencies. RCOM expects the auction price to be in a range upwards of USD 1 billion for a nationwide licence. RCOM believes that with implementation of MNP; 3G will act as a key differentiator to attract high-end customers to its newly launched nationwide GSM operations. RCOM has planned a suite of high end applications such as video telephony which are expected to be highly attractive to high-end 3G customers. Also, India is a low broadband penetration market with high growth
potential. 3G data card services will be able to bridge the supply gap currently limited due to low fixed-line penetration in the country.

RCOM has announced launch of pan India GSM services on December 30, 2008. RCOM believes that with a nationwide GSM network complementing its existing nationwide CDMA network it will be able to achieve No. 1 leadership position in the wireless space in India. With a nationwide GSM network, RCOM will be able to share growth opportunities in India’s GSM market, which constitutes 80% of the Mobility market and which has a very high churn rate. RCOM will be able to expand its market share in segments which are high VAS users (such as youth) and which are today mostly using GSM technology because of highly developed eco-system of GSM handsets in the country. This coupled with the existing leadership position in enterprise and NLD/ILD business, RCOM has the potential to become the undisputed leader in the Indian telecommunication sector. RCOM has also started upgrading its existing CDMA 1x network with EVDO technology at selective locations in the top 250 cities across India. RCOM believes that CDMA provides an edge in wireless data transfer and can be a very cost effective solution for high data ARPU customers. RCOM is already the leader in the wireless data card business in India through its CDMA 1x data cards; EVDO will strengthen this leadership further by providing consumers with much greater speed and superior SLAs. On January 31, 2009, the Board of Directors of Reliance Communications Limited had approved a Scheme for consolidation of Optic Fiber Division of the Company to Reliance Infratel Limited, a 5 subsidiary of the Company. Transfer of Optic Fiber division Assets from RCOM to Reliance Infratel will be through a Court approved Scheme of Arrangement at fair value. No additional equity shares are to be issued and no change is proposed in the capital structure of the Company in terms of said Scheme.

1.2.4 Bharti Airtel Limited

Bharti Airtel is a provider of telecommunications services. The businesses at Bharti Airtel have been structured into three individual strategic business units (SBU’s) - mobile services, broadband & telephone services (B&T) & enterprise services. The company's mobile services include pre-paid and post-paid tariffs, value-added services, roaming
services, Blackberry services, and business solutions. These services are provided under the Airtel brand. The company's broadband and telephone services include those for both residential and business customers. Services comprise DSL Internet access and fixed line telephony. These services are provided under the Airtel Broadband brand. The company's enterprise services include voice services, mobile services, satellite services, managed data and Internet services, managed e-Business services, and managed customized integrated solutions. The company serves over 37 million mobile customers and around one million broadband and telephony customers.

**BAL-Growth & Development**

Bharti Airtel was established as Bharti Tele-Ventures, in 1995. The company offered its initial public offering in 2002. During 2004, the company delisted its shares from the Delhi Stock Exchange. It continued to trade on the National Stock Exchange and the Mumbai Stock Exchange. Vodafone acquired a 10% stake in Bharti Tele-Ventures for around $1.5 billion, in 2005. Bharti Tele-Ventures renamed itself to Bharti Airtel Limited, in 2006. In September 2007, the company signed a managed networks deal for its Sri Lanka operations with Huawei Technologies Company, a leader in providing next generation telecommunications network solutions for operators around the world. In October 2007, Bharti Airtel and Indian Institute of Technology (IIT) Delhi announced their plans to establish the Bharti-IIT Delhi Telecom Centre of Excellence. Bharti Infratel, a subsidiary of the company announced plans to partner with Vodafone Essar and Idea Cellular to form Indus Towers, an independent tower company to provide passive infrastructure services in India, in December 2007. The company and the All India Football Federation (AIFF), the official governing body in India for football, signed an MoU to create a comprehensive programme for the development and globalisation of Indian football, in January 2008.

Bharti Airtel along with eight companies of the global telecommunications industry signed a formal Construction and Maintenance Agreement in Rome today to build a high-capacity fiber-optic submarine cable that stretches from India to France via the Middle East, in February 2008. In the same month, the company along with five international companies executed an agreement to build a high-bandwidth undersea fiber-optic cable
linking Asia and the US. In March 2008, the company launched Airtel Call Home service for calls made from US to India. In the same month, Guernsey Airtel, a subsidiary of the Bharti Group, launched its mobile services in Guernsey (Channel Islands, Europe). The company offered products and services under the Airtel-Vodafone brand to customers on the Island.

Also in the same month, Airtel Telemedia Services, a private broadband and telephone service provider, launched airtellive.com, an all-in-one internet portal for Airtel Customers.

**BAL-Area of Operation**

- **Products & Services**

The businesses at Bharti Airtel have been structured into three individual strategic business units (SBU’s) - mobile services, broadband & telephone services (B&T) & enterprise services. The mobile services group provides GSM mobile services across India in 23 telecom circles, while the B&T business group provides broadband & telephone services in 90 cities. The Enterprise services group has two sub-units - carriers (long distance services) and services to corporate. All these services are provided under the Airtel brand. Its include:

- Voice Services
- Mobile Services
- Satellite Services
- Managed Data & Internet Services
- Managed e-Business Services
- Voice Services

Bharti Airtel became the first private fixed-line service provider in India. It is now promoted under the Airtel brand. Recently, the Government opened the fixed-line industry to unlimited competition. Airtel has subsequently started providing fixed-line services in the four circles of Delhi, Haryana, Madhya Pradesh, Karnataka, Tamil Nadu & UP (West). Airtel Enterprise Services believes that these circles have high telecommunications potential, especially for carrying Voice & Data traffic. These circles were strategically selected so as to provide synergies with Airtel’s long distance network.
and Airtel’s extensive mobile network. Airtel Enterprise Services, India's premium telecommunication service, brings to you a whole new experience in telephony. From integrated telephone services for Enterprises and small business enterprises to user-friendly plans for Broadband Internet Services (DSL), we bring innovative, cost-effective, comprehensive and multi-product solutions to cater to all your telecom and data needs.

- **Voice - Product Portfolio**

  Airtel Enterprise Services telephone services go beyond basic telephony to offer our users a whole host of Value Added Services as well as premium add-ons. Each telephone connection from Airtel Enterprise Services is backed by a superior fiber-optic backbone for enhanced reliability and quality telephony. Few of the Value Added Services offered are Calling Line Identification, Three Party Conferencing, Dynamic Lock, Hunting Numbers, and Parallel Ringing etc. Airtel Enterprise Services Voice Services provide Free Dial-up Internet access that is bundled along with your Telephone connection from Airtel. It’s fast, reliable and gives you unlimited Internet access.

- **Mobile Services**

  Airtel’s mobile footprint extends across the country in 21 telecom circles. Its service standards compare with the very best in the world. In fact, that’s how Bharti has managed to win the trust of millions of customers and makes it one of the top 5 operators in the world, in terms of service and subscriber base. The company has several Firsts to its credit: The First to launch full roaming service on pre-paid in the country. The First to launch 32K SIM cards. The First in Asia to deploy the multi band feature in a wireless network for efficient usage of spectrum. The First to deploy Voice Quality Enhancers to improve voice quality and acoustics. The First telecom company in the world to receive the ISO 9001:2000 certification from British Standards Institute.

- **Satellite Services**

  Airtel Enterprise Services provides you connectivity where ever you take your business. Our Satellite Services bring you the benefits of access in remote locations. Airtel Enterprise Services is a leading provider of broadband IP satellite services and DAMA/PAMA services in India. Our solutions support audio, video and voice
applications on demand. Satellite Services include: PAMA/DAMA, BIT – Internet, VPN, Satellite based IPLCs for redundancy reasons.

Managed Data & Internet Services

Airtel Enterprise Services brings you a comprehensive suite of data technologies. So we are able to support all types of networks and ensure our customers can migrate their network to the future seamlessly. Our Managed Data & Internet services make our customers future proof. Managed Data & Internet Services include:

- MPLS, ATM, FR, Internet, IPLC
- Leased Lines, Customised Solutions, International Managed Services
- Metro Ethernet.
- Managed e-Business Services

Airtel Enterprise Services offers an internationally benchmarked, carrier class hosting, storage and business continuity services. A range of services that help to keep your business running the way you want- 24x7. Thanks to our world-class high tech Data Centers. Managed e-Business Services include: Co-lo: Dedicated and Shared, BCRS Services, Web hosting

1.2.5 Vodafone Limited

The Group's mobile subsidiaries operate under the brand name 'Vodafone'. In the United States the Group's associated undertaking operates as Verizon Wireless. During the last two financial years, the Group has also entered into arrangements with network operators in countries where the Group does not hold an equity stake. Under the terms of these Partner Network Agreements, the Group and its partner networks co-operate in the development and marketing of global services under dual brand logos. At 31 March 2008, based on the registered customers of mobile telecommunications ventures in which it had ownership interests at that date, the Group had 260 million customers, excluding paging customers, calculated on a proportionate basis in accordance with the Company's percentage interest in these ventures.

The Company's ordinary shares are listed on the London Stock Exchange and the Company's American Depositary Shares ('ADSs') are listed on the New York Stock

Vodafone itself was formed in 1982 as a joint venture between Racal Electronics plc's subsidiary Racal Strategic Radio Ltd (who won one of two UK cellular telephone network licenses) along with Millicom and the Hambros Technology Trust. In this arrangement Racal owned 80%, Millicom 15% and Hambros 5%.

The network was known as Racal Vodafone, with the Vodafone name being derived from the firm's goal of establishing a voice and data services over cellular telecommunication networks. Hence VO represented voice and DA symbolized data yielding the name Vodafone. Vodafone was launched on 1 January 1985 and later that year Racal Strategic Radio was renamed Racal Telecommunications Group Limited in 1985. A year later, on 29 December 1986 Racal Electronics bought out the minority shareholders of Vodafone for GB£110 million. In September 1988 the company was again renamed Racal Telecom and on 26 October 1988 Racal Electronics floated 20% of the company — a flotation that valued Racal Telecom at GB£1.7 billion. On 16 September 1991 Racal Telecom was demerged from Racal Electronics as Vodafone Group and the mobile telephony giant was born. During the mid-1990s Vodafone began to consolidate itself on the British high-street. In July 1996 Vodafone acquired the two thirds of Talk land it did not already own for £30.6 million. On 19 November 1996, in a defensive move, Vodafone purchased Peoples Phone for £77 million, a 181 store chain whose customers were overwhelmingly using Vodafone's network. In a similar move the company acquired the 80% of Astec Communications that it did not own, a service provider with 21 stores. This made Vodafone a very visible presence on the British high street and significantly increased the company's share of UK mobile customers.

**Vodafone - India**

Vodafone Essar started its operations in India in 1994 and is under the Vodafone Group. The company Vodafone Essar Limited has become one of the leading companies in the telecom sector in India due to its high standard of services that it provides to its
customers. The company Vodafone Essar has its operations in 16 telecom circles of the country, which covers around 86% of the customer mobile base in India. The company offers both postpaid and prepaid GSM cellular mobile coverage all across India and its hold is especially strong in the metropolitan cities. The company Vodafone Essar Limited provides services like 2G, which are based on 1800Mhz and 900Mhz GSM digital technology. The company Vodafone Essar also offers voice and data services.

Ownership
Vodafone Essar is owned by Vodafone 52%, Essar Group, 33% and other Indian nationals, 15%. On February 11, 2007, Vodafone agreed to acquire the controlling interest of 67% held by Li Ka Shing Holdings in Hutch-Essar for US$11.1 billion, peppering Reliance Communications, Hinduja Group, and Essar Group, which is the owner of the remaining 33%. The whole company was valued at USD 18.8 billion.[2] . The transaction closed on May 8, 2007. In December 2006, Hutch Essar re-launched the "Hutch" brand nationwide, consolidating its services under a single identity. The Company entered into agreement with NTT DoCoMo to launch i-mode mobile Internet service in India during 2007. The company used to be named Hutchison Essar, reflecting the name of its previous owner, Hutchison. However, the brand was marketed as Hutch. After getting the necessary government approvals with regards to the acquisition of a majority by the Vodafone Group, the company was rebranded as Vodafone Essar. The marketing brand was officially changed to Vodafone on 20 September 2007. On September 20, 2007 Hutch becomes Vodafone in one of the biggest brand transition exercises in recent times. Vodafone Essar is spending somewhere in the region of Rs 250 crores on this high-profile transition being unveiled today. Along with the transition, cheap cell phones have been launched in the Indian market under the Vodafone brand. The company also plans to launch co-branded handsets sourced from global vendors as well. A popular daily quoted a Vodafone Essar director as saying that "the objective is to leverage Vodafone Group's global scale in bringing millions of low-cost handsets from across-the-world into India.

VG-Growth & Development
Vodafone Group (British) is one of the rare groups that have significant world coverage in the telecommunications field. It principally specializes in the mobile telephony and telephonic transmission network sectors. It has subsidiaries in numerous countries: in North and South America, Asia, Oceania and Africa. Better known by its former name, Vodafone Air Touch, it has become the leading mobile phone operator in Germany, Britain and the USA (Verizon Wireless). And there are a whole series of holdings: SFR, Swiss Mobile, Vodafone K.K. (Japan), 100% of Vodafone Ireland, 100% of Vodafone Spain and 99 of Vodafone Netherlands etc.

The group offers services from mobile phones to customized communication services (call management, message services) and supplies data management equipment: Internet, Modems, fax, directories and telemetric servers. Vodafone Group Plc (Vodafone) is engaged in providing service, such as voice, messaging, data and fixed line and others.

Voice services include provision of mobile voice communications. Messaging include text, picture and video messaging using mobile devices. Date services provide e-mail, mobile connectivity and Internet on Your mobile. Fixed lines provide customers with fixed broadband and fixed voice and data solutions. Other services include mobile advertising and business managed services, as well as incoming roaming and wholesale mobile virtual network operators. On December 30, 2008, Vodacom Group (Pty) Limited (Vodacom) acquired the carrier services and business network solutions subsidiaries of Gateway Telecommunications SA (Pty) Ltd. In January 2009, Verizon Wireless completed its purchase of Alltel Corporation from Atlantis Holdings LLC. On April 20, 2009, the Company acquired an additional 15% stake in Vodacom. On May 18, 2009, Vodacom became a subsidiary of the Company. The Vodafone Group is the mobile telecommunications company with the most significant presence around the world. It has over 303 million customers calculated on a proportionate basis in 31 countries and the brand is present in a further 40 countries through partnership networks. In an increasingly connected world, we intend to be a global communications operator capable of responding to all our customers’ needs, whether it’s using a mobile, a fixed line or broadband, building on the know-how and experience that we have acquired in the mobile sector. Through our services, customers
are able to lead fuller lives at home or at work, benefiting from irresistible, innovative mobile communications, mobile-PC convergence and fixed communications services. We are committed to making it possible for our customers to use the services they are used to, no matter how they access them and with a simple and transparent usage experience. We are in the forefront of the definition of mobile voice and data services throughout the world and are constantly exploiting new technologies.

We also differentiate ourselves in terms of our prices by offering customers the most transparent and competitive price plans in the market. With roaming calls, for example, we pass on to the customer the advantages of being part of a global operator. The Group's principal activity is providing voice and data communications services. Through its mobile businesses, the Group provides a range of mobile communications services including voice, text messages, picture messages and other data. The Group is also focusing on developing total communications solutions for customers broadband connectivity. The Group operates in Europe, the Middle East, Africa, Asia, Pacific & the United States. Vodafone Group is a mobile tele-communications company. The company has a significant presence in Europe, the Middle East, Africa, Asia Pacific and the United States. In the United States the Group’s associated undertaking operates as Verizon Wireless.

The name Vodafone comes from Voice datafone, chosen by the company to "reflect the provision of voice and data services over mobile phones."[2] As of 2009 Vodafone had an estimated 303 million customers in 25 markets across 5 continents.[3] On this measure, it is the second largest mobile telecom group in the world behind China Mobile. In the United States, Vodafone owns 45% of Verizon Wireless, the largest wireless telecommunications network in the United States, based on number of subscribers.

Global Enterprise is a business set up by Vodafone with the sole purpose of handling Vodafone's multinational clients. It is the high end business to business section of Vodafone group, and acts like an operating country (such as for example Vodafone UK). Devices and services available in any operating country, are available to Global Enterprise customers in the same country, and so Vodafone Global Enterprise are able to
offer a wide range of products. Vodafone Global Enterprise have a presence in over 65 countries and this number is expected to grow in future, as with the recent acquisition of Ghana Telecom.

Since its foundation in 2007, Global Enterprise has aimed to be a world leader in managed mobility services. Vodafone Global Enterprise are headquartered in Newbury, but do have operatives around the world; while many of Vodafone's marketing employees are relocated to London, Global Enterprise' team will remain in Newbury. Nick Jeffery leads Vodafone Global Enterprise. He led the creation of Vodafone Global Enterprise in 2007 and continues to define the strategy and operational execution for Vodafone's relationship with multi-national corporate customers. Global Enterprise have a dedicated group of account managers, at both global and national levels, who look after customers needs, and are supported by pre-sales and technical consultancy teams. Products and Services include Enterprise Central, Telecoms Management, Global Device Portfolio and Managed Mobility Services. In 2009 Vodafone Global Enterprise was the winner of Best Mobile Enterprise Service at the GSMA Global Mobile Awards 2009.

VG-Area of Operation

- **Vodafone At Home**
  Vodafone At Home includes a number of offers designed to meet all your home communications needs through a single device, now available in most European markets. With zonal tariffs, you can make reduced rate calls within your home area to fixed numbers and defined mobile Networks, offering the value of a fixed line with the freedom of a mobile. You can also take out a subscription for unlimited calling to fixed line numbers from your mobile, reducing the need for fixed line devices and allowing cheaper calls when on the move.

- **Quick Stats**
  Vodafone Office is the umbrella name for a series of products and services designed to meet all our business customers' communications needs. With Vodafone Wireless Office, companies can transfer voice minutes from a fixed line to the mobile network, reducing
the need for fixed desk phones. Existing fixed line and extension numbers can be assigned so that all calls are easily transferred to your mobile.

A closed user group tariff is available allowing employees to call each other for a flat monthly fee. In Germany, Spain, Greece, Italy and Portugal, location based zonal tariffs allow preferential rates when calling from the office. Geographic numbers enable increased fixed to mobile substitution, allowing you the freedom to use a single mobile phone in and out of the office.

- **Vodafone Passport**

Vodafone Passport makes it possible for your home tariff to travel with you, offering better value and simplicity when you go abroad. With Vodafone Passport, you know exactly what the charges will be when you use roaming services, and in some cases Vodafone Passport includes free minutes bundles and the option to receive calls at no change. Our services are accessed on a wide range of handsets, the Vodafone Mobile Connect card with 3G broadband and the Vodafone Mobile Connect USB modem.

**Handsets**

Our handset portfolio ranges from handsets for our core voice services, to premium multimedia devices and includes a range of low-cost Vodafone handsets for the emerging markets.

- **Vodafone live! Handsets**

Our customers access 3G services on a range of handsets including the exclusive Sony Ericsson V640i and an exclusive Mobile Internet version of the Nokia 6120c. Our higher speed HSDPA mobile broadband services are also available to subscribers on mid-priced handsets.

Our Internet on Your Mobile services are available on a selection of handsets customized for internet experience, including high-end devices like the Nokia N95 8GB, Sony Ericsson W910i and Samsung SGH-F700V QBowl. The Vodafone 125 and Vodafone 225 were the first ultra low cost handsets under the Vodafone brand, and the lowest cost mobile phones we have ever launched.
• **Business handsets**

We are always expanding our range of business handsets. Our exclusive devices include the Palm Treo 500v and the BlackBerry® Curve™ 8310 Smartphone. Both offer business email combined with Vodafone live! services, such as Google Maps, internet browsing and instant messaging. In addition, the BlackBerry 8100 series and the BlackBerry 8110 series continue to be in demand along with the Nokia E series range.

• **Vodafone Mobile Connect**

The Vodafone Mobile Connect card with 3G broadband offers enhanced speeds which can be up to 7.2 Mbps downlink and up to 2.0 Mbps uplink through HSPA technology. Built-in 3G broadband from Vodafone is now available across a portfolio of 44 laptop models. Our partners Acer, Dell, HP and Lenovo fit a Vodafone SIM to their laptops which include a built-in modem. We have a range Vodafone Mobile Connect USB modems with exclusive designs, including USB sticks, all benefiting from plug and go software, making them easy to use for consumers and businesses. We offer a number of products and services to enhance our customers’ access to data services, including Vodafone live! for consumers as well as a suite of products for business users such as Vodafone Mobile Connect data cards and internet-based and corporate email solutions.

• **Vodafone live! – Internet on Your Mobile**

Internet on your Mobile. offers easy to use and secure browsing, including Google search, an unlimited browsing tariff and access to some of the most popular online services. You can use your mobile to access and update your social networking profiles, view and upload YouTube videos, buy and sell items on eBay, and check locations on Google Maps. You can also chat to friends easily with Yahoo! and MSN instant messaging using an easy to use dedicated interface. Using the new Vodafone live! Mobile and PC music player you can search for music, artist pages and previews from a catalogue of more than 750,000 songs. Music from some of the world's greatest artists is available, with music secured from agreements with major record labels such as Sony BMG Music Entertainment, EMI, Universal Music, Warner Music, as well as independent music labels. Mobile TV offers an average of 20 channels from both local and international broadcasters. Vodafone has
local agreements with broadcasters, such as the BBC, ZDF, RAI, Pro-Sieben, Channel 4 and RTL, as well as international broadcasts from HBO, Fox, NBC Universal, Warner Brothers, UEFA Champions League, Vodafone McLaren Mercedes and MTV, ensuring diverse and relevant mobile content.

- **Vodafone Mobile Connect**
  Vodafone Mobile Connect enables you to access the internet on your laptop or PC via Vodafone Mobile Connect data cards or Vodafone Mobile Connect USB modems. Business customers can access services such as email, corporate applications and company intranets using the service.

- **Vodafone Mobile Connect card**
  You can enjoy built-in 3G broadband from Vodafone across 44 laptop models, including Vodafone’s partners Acer, Dell, HP and Lenovo. Everything you need to make an internet connection from your computer using a mobile network is installed and configured, allowing you to work on the move. The Vodafone Mobile Connect card with 3G broadband offers enhanced speeds which can be up to 7.2 Mbps downlink and up to 2.0 Mbps uplink by utilising HSPA technology.

- **Vodafone Mobile Connect USB modems:**
  There are a range of Vodafone Mobile Connect USB modems with exclusive designs. The USB modems are plug and play compatible, allowing for a fast set up and making the device easy to use.

**1.2.6 IDEA Cellular Limited**
IDEA Cellular is a publicly listed company, having listed on the Bombay Stock Exchange (BSE) and the National Stock Exchange (NSE) in March 2007. IDEA Cellular is a leading GSM mobile services operator in India with over 53 million subscribers, under brand IDEA. It is a pan India integrated GSM operator covering the entire telephony landscape of the country, and has NLD and ILD operations. A frontrunner in introducing revolutionary tariff plans, IDEA Cellular has the distinction of offering the most customer friendly and competitive Pre Paid offerings, for the first time in India, in an increasingly segmented market. From basic voice & Short Message Service (SMS) services to high-end value added & GPRS
services such as Blackberry, Datacard, Mobile TV, Games etc - IDEA is seen as an innovative, customer focused brand. IDEA offers affordable and world-class mobile services to varied segments of mobile users. Be it high end users, or low-end, price sensitive consumers - IDEA's tariff plans are designed to suit every pocket. With a vision of delighting its customers while meeting their individual communication needs anytime, anywhere, IDEA offers seamless coverage to roaming customers traveling to any part of the country, as well as to international traveling customers across over 200 countries. IDEA Cellular has partnership with over 400 operators to ensure that customers are always connected while on the move, within the country or other parts of the world.

IDEA is the winner of 'The Emerging Company of the Year Award' at The Economic Times Corporate Excellence Awards 2008-09. The company has received several other national and international recognitions for its path-breaking innovations in mobile telephony products & services.

It won the GSM Association Award for .Best Billing and Customer Care Solution. for 2 consecutive years. It was awarded .Mobile Operator of the Year Award - India. for 2007 and 2008 at the Annual Asian Mobile News Awards (Click here to view the complete list)*IDEA Cellular is an Aditya Birla Group Company, India's first truly multinational corporation. The group operates in 25 countries, and is anchored by over 1,30,000 employees belonging to 30 nationalities. The Group has been adjudged the 6th Top Company for Leaders in Asia Pacific Region' in 2009, in a survey conducted by Hewitt Associates, in partnership with The RBL Group, and Fortune. The Group has also been rated, ‘The Best Employer’ in India and among the Top 20 in Asia' by the Hewitt-Economic Times and Wall Street Journal Study 2007.

IDEA-Growth & Development

Idea Cellular was incorporated as Birla Communications Limited on March 14, 1995 and granted a certificate of commencement of business on August 11, 1995. Its registered office was in Mumbai, Maharashtra. Its name was changed to Birla AT&T Communications Limited on May 30, 1996 following the execution of a joint venture agreement dated December 5, 1995 between AT&T Corporation and Grasim Industries
Limited pursuant to which the Aditya Birla Group held 51% of its Equity Share capital and AWS Group held 49% of its Equity Share capital. The registered office was transferred from Industry House, 1st Floor, 159 Church Gate Reclamation, Mumbai 400020, and Maharashtra to Suman Tower, Plot No. 18, Sector 11, Gandhinagar, 382011. Gujarat on October 22, 1996. With effect from January 1, 2001 following merger with Tata Cellular Limited the joint venture agreement between AT&T Corporation and Grasim Industries Limited dated December 5, 1995 was replaced by a share holder's agreement dated December 15, 2000 entered into between Grasim Industries Limited on behalf of the Aditya Birla Group, Tata Industries Limited on behalf of the Tata Group and AT&T Wireless Services Inc. on behalf of the AWS Group following which its name was changed to Birla Tata AT&T Limited on November 6, 2001. Consequent to the introduction of the .Idea. brand, its name was changed to Idea Cellular Limited on May 1, 2002. The AWS Group exited from the Company on September 28, 2005 by selling 371,780,740 Equity Shares of the Company, which constituted 50% of the holding of AT&T Cellular Private Limited in equity share capital, to ABNL and by transferring the remaining 371,780,750 Equity Shares to Tata Industries Limited. The Tata Group ceased to be a shareholder of the Company on June 20, 2006 when Tata Industries limited and Apex Investments (Mauritius) Holding Private Limited (formerly known as AT&T Cellular Private Limited) sold all their shares in the Company to the Aditya Birla Group. On October 26, 2006, P5 Asia Investments (Mauritius) Limited (.P5 Asia.) acquired 14.60% of our Equity Share capital. Under a Governance and Exit Rights Agreement dated October 23, 2006 between P5 Asia, ABNL and Birla TMT, so long as an initial public offering has not occurred and P5 Asia holds no less than 10% of Equity Shares, ABNL and Birla TMT are required to procure that (a) Company and its Subsidiaries shall not take or pursue any of the following actions without P5 Asia’s prior consent (such consent to be obtained in a board and/or Shareholders resolution) including in respect of: (i) Any merger with, acquisition of, or amalgamation or consolidation with another company or business;
(ii) Assuming or permitting to exist any borrowings or indebtedness in the nature of borrowings if the amount of all such borrowings of Company and its Subsidiaries would exceed Rs. 6,800 million;

(iii) Entering into a new line of business;

(iv) Increasing our authorized or issued share capital; or

(v) entering into a joint venture and (b) our Company makes available to P5 Asia certain financial information relating to our Company and its Subsidiaries such as monthly management accounts, quarterly unconsolidated balance sheet and profit and loss account and the annual audited consolidated balance sheets and profit and loss accounts.

P5 Asia also has a right to appoint one director to our Board so long as it holds at least 10% of our total issued and outstanding Equity Shares. Mr. Biswajit Subramanian has been appointed to our Board by P5 Asia pursuant to the exercise of the above right. In addition, any IPO of our Equity Shares requires P5 Asia’s written consent, and, further, in any such IPO, P5 Asia has the right to offer for sale such number of Equity Shares representing up to 10% of the total Equity Shares which are held by it. By its letters dated December 2, 2006 to ABNL and Birla TMT, P5 Asia has given its written consent for the Issue and has confirmed that it does not intend to offer for sale any of the Equity Shares held by it in such Issue. We, either directly or through our Subsidiaries, provide mobile services in the Andhra Pradesh, Delhi, Gujarat, Haryana, Kerala, Madhya Pradesh, Maharashtra and Uttar Pradesh (West) Circles, and have recently launched services and as such are in the process of fully rolling-out our network in the Uttar Pradesh (East), Rajasthan and Himachal Pradesh Circles pursuant to licenses issued by the DoT.

IDEA-Area of Operation

We offer pre-paid and post-paid mobile services in our 11 Circles under the brand names of .Idea Chit Chat. and .Idea., respectively. We seek to identify new business opportunities and be the first mover amongst our competitors for value added services (VAS.). We were the first mobile operator to offer an extended validity post-paid product, which now forms a sizeable percentage of our post-paid base. In addition to our core mobile voice services, we offer our subscribers features such as:
• Easy to use missed call alerts;
• GPRS enabled entertainment services like MMS, Video Tones, WAP, wallpapers, Java games and Mobile Magazine;
• GPRS enabled information services like internet browsing, data cards and mobile email;
• Voice and SMS based entertainment services like Ring Back Tones, background Music, voice and SMS chat, ringtones, horoscopes, expert advise and subscription services;
• Call-forwarding (allowing a subscriber to divert incoming calls to another telephone number);
• Call conferencing (allowing a subscriber to speak to two or more persons simultaneously);
• Voice mail (allowing callers to leave voice messages for the subscriber);
• Regional, on-net, national and international roaming options for the subscribers;
• GPRS roaming available with key national and international operators; and
• Fixed Cellular Terminal for corporate needs, GSM gateways, vehicle tracking; and Automatic Meter Reading.

**Pre-paid services**
As at September 30, 2006, approximately 86.1% of our subscribers were pre-paid. These subscribers pay for mobile services by means of purchasing pre-paid cards which are sold through a wide variety of retail and other outlets. It has been our strategy to build strong distribution channels to support our pre-paid mobile services business. We believe a significant factor in our historic growth has been the way we have made our pre-paid cards available in our target markets. Our distribution channels have grown by 30% in terms of the number of retail outlets over the past twelve months.
Pre-paid starter packs and pre-paid cards are sold to distributors upfront for cash, who in turn supply them to retail outlets. The Indian retail sector is not organized on a national scale and comprises a large number of small retail shops throughout the country. We believe the depth of our distribution network is comprised of the wide variety of
categories of retail outlets in which our pre-paid cards are available, ranging from neighborhood department stores and pharmacies to exclusive telecom outlets and branded stores. We are one of the few companies to develop and explore alternate distribution channels such as tie-ups with branded stores such as Big Bazaar and Pantaloon that have retail stores in many locations in India to distribute our pre-paid cards. This enables us to maintain a high profile among existing and potential subscribers in a wide variety of geographic and demographic segments. As a longstanding licensee in seven of the Established Circles, we have enjoyed long relationships with our distributors and have sought to work with them to improve the service we provide to our subscribers. We offer incentives to distributors and retailers who are successful in meeting activation targets, such as a trip to Dubai in June 2006 to witness the International Indian Film Academy awards ceremony and also arrange events with our retailers such as our conference in Surat, Gujarat to launch a major market share initiative. We believe this promotes distributor and retailer loyalty and, as a result, continuity and availability of our products to our subscribers.

**Post-paid services**

Our post-paid services are marketed by our Enterprise Business Unit as well as through a combination of Idea =n’ U showrooms (some of which are owned and managed by us but most are franchised to third parties), dealers and direct sale agents. Our Enterprise Business Unit focuses on the corporate and SME segments and provides products and services based on a concept of providing a complete package to meet the telecommunication needs of the corporate or SME, after sales-services and support with respect to billing queries and complaints. The Enterprise Business Unit has launched a major initiative in relation to corporate business, where we typically focus on the top 10 to 15 towns in each Circle, which we have identified as having higher potential for the marketing of post-paid services.

**Subscriber Acquisition Costs**

Customer acquisition costs include the cost of customer verification in accordance with Government policy (for further details see Business - Customer Verification, on page 18 of this Draft Red Herring Prospectus), SIM costs and, in the case of pre-paid
services, a discount to the distributor and retailer, and in the case of post-paid services a commission to the franchisee/dealer.

For pre-paid services, we grant a fixed discount of approximately 20% (5% to distributors and 15% to retailers) on starter packs and 5% (2% to distributors and 3% to retailers) on pre-paid cards. For post-paid services, a commission is paid to the franchisee/dealer. It is our practice to pay dealer commission in tranches such that the second and last tranche are only paid if the subscriber continues to be on our network for six months or more, and also to claw back a percentage of the commission paid should a post-paid subscriber default in payment of their first bill without any usage (the default amount equals the fixed monthly rental fee). These deferred commission and claw back arrangements are used to incentivize our retailers and distributors to ensure that subscribers remain active users of our services. We are flexible in our approach to commissions and seek to use payments to optimize our presence in each market.

The gross level of commissions and discounts payable by us to retailers and dealers in relation to subscriber acquisitions has increased, primarily as a result of intense competition from other operators. Within this overall rise, however, there is a distinction between pre-paid and post-paid subscribers, with discounts for pre-paid subscribers increasing while commission levels for post-paid customers have slightly decreased.

**Customer contact points**

Our subscribers can use one of the following to contact us: call centers, showrooms, SMS, USSD based messaging and email messaging. We address customer issues through both in-house and outsourced call center facilities. In order to meet growing needs of customers, apart from continuously expanding the capacities of these channels we also keep innovating on developing new channels of contact, for example, we currently offer services via our web portal, through SMS messaging and by e-mail and we will shortly rollout Self Service Kiosks. to provide extra facilities to customers visiting showrooms. We currently have over 570 showrooms across the Established Circles. We plan to have over 100 showrooms in the New Circles by March 2007. To proactively address customer issues and to educate customers on new products that we launch from time to time, we
also have in place outsourcing arrangements with reputable vendors who provide additional call handling services such as making initial contact with prepaid and postpaid subscribers and a follow-up call after a specified period to cross-sell and promote VAS. We have recently established a call center in Delhi to service our northern Circles including the Delhi, Rajasthan, Haryana, Uttar Pradesh (West) Circles.

**Customer relations and our loyalty program**

Our customer relations department oversees our relationships with our subscribers and seeks to manage Churn. This department is split into teams focusing on our post-paid, pre-paid and corporate subscribers, respectively. To assist in managing customer retention, and in particular churn for pre-paid subscribers with whom we have less interaction, we use a variety of techniques to predict, pre-empt and contain Churn. We have also sought to increase subscriber loyalty with the introduction of one of the first pre-paid loyalty programs in the Indian telecom market, Lifetime Idea; Our post-paid loyalty program; Idea Select., is the first of its type in India. This program offers rewards in the form of events or gifts and has two levels, gold and silver, based on factors such as gross monthly billing, length of time with our network and payment performance. The majority of loyalty program members are high net worth retail subscribers. We believe our loyalty scheme is effective in increasing retention, with the Churn rate for Idea Select. subscribers being much lower (less than 1%) than our average for post-paid subscribers generally.

**Roaming Services**

Roaming enables subscribers to make and receive voice calls send and receive data or messages or access other services when traveling outside their Circle or home network. We offer roaming services to both our pre-paid and post-paid subscribers. The amounts we charge our subscribers when they roam to other networks (.out roamers.) and the amounts we charge subscribers of other operators who roam into our network (.in roamers.) vary according to whether an out roamer is a pre-paid or post-paid customer and whether out roaming or in roaming is on a national or international basis. The charges involve both fixed fees and airtime charges.
We also are required to pay certain amounts to third parties in connection with roaming, for example interconnection charges (IUC.) and data clearing charges. We enter into preferred roaming relationships with select foreign operators whereby our network is selected automatically when an out roamer of the relevant operator enters any of our 11 Circles and vice-versa, and we have arrangements with various international roaming services providers. We also seek to promote loyalty from in roamers and plan to introduce a dedicated roaming customer care help desk. We have approximately 218 existing bilateral international roaming partners for voice transmissions and are testing GPRS roaming with approximately 33 operators.

1.3 CRM AND MOBILE COMPANIES

1.3.1 Introduction of Relationship Marketing

- Relationship Marketing is a core function within any organization as it is responsible for reflecting customer demand back into an organization and ensuring the organization delivers its customers what they want.

- Relationship Marketing uses market information to identify new ways of satisfying needs and creating value. Specific areas include market segmentation strategies, market planning, consumer psychology and behaviour, marketing research, new product development, branding strategies, channels of distribution, pricing strategies, customer relationship management, business-to-business marketing, and marketing in the region.

- The Relationship Marketing Discipline embraces multiple research methodologies and paradigms to examine consumer decision making, judgment and purchase behaviour. It explores the influence of broad, macro-level variables like demographics, social class and family socialization processes, as well as the effects of marketing variables such as advertising, branding, and store layout.

- The Relationship Marketing Discipline emphasizes critical and analytical thinking and the practice of marketing as a discipline integrated with other elements of an organization. It gives you an understanding of consumer behaviour and purchase decision-making, integrating theory and practice from many branches of the social sciences.
1.3.2 Relationship Marketing Strategy

- Marketing Strategy encompasses selecting and analysing of the target market/s and creating and maintaining an appropriate marketing mix that satisfies the target market and the organization.
- Marketing Strategy articulates a plan for the organization’s resources and tactics to meet its objectives. Organisation must not pursue strategies that are not consistent with their objectives or that would stretch significantly their resources.
- We can say that a product’s value is chosen, provided and communicated to the consumer. The upper management will choose the value for the product by segmenting the market, choosing the target market and positioning the product i.e. Marketing Strategy. Then the lower level management will provide and communicate the value to consumer, Tactical Marketing, using the four P.s (Place, Promotion, Product and Price).

1.3.3 Types of Marketing Strategies adopted for Relationship Marketing

Going through the Value Creation and Delivery Sequence process may not bring the main objectives. There are three types of marketing strategies put forward by Michael Porter that are important to consider whenever using the value creation and delivery sequence process. They are: Low-Cost Strategy, Differentiation Strategy, and Focus Strategy.

**Low-Cost Strategy**

A company or a SBU (Strategic Business Unit), typically large, seeks to satisfy a broad market by producing a standard product or service at a lower cost and then under pricing competitors. Such Strategy will aim at reducing the cost of producing the product or service and also cost along the supply chain of the product or service.

The advantages of such strategy are high profits, brand loyalty, economies of scale and reduction in competition in the Market. But its disadvantages are that if there exists a strong competitor in the market then by going on such strategy the competitor might reply by reducing its price also and thus the product can be a failure.

**Differentiation Strategy**
Through this type of strategy, an organization creates a distinctive, perhaps unique, product through its unsurpassed quality, innovative design, or some other feature and as a result, can charge a higher than average price. It can be used to pursue either a broad or narrow target market. The advantages of differentiation strategy are the creation of brand loyalty and higher profit in the short-term and long-term. Its disadvantage is risk as great loss can be incurred if consumers do not like the product or service.

**Focus Strategy**

A firm or a SBU concentrates on part of a market and tries to satisfy it with either a very low-priced or highly distinctive product. The target market is set apart by some factors as geography or specialized needs. The advantages of such strategy are brand loyalty and high profits in long term (short-term) for Low-priced product (highly distinctive product). The disadvantages are high competition and new trend in consumer’s taste may influence negatively on the sales.

![Figure:1.1 Low-Cost, Differentiation and Focus Strategy on a Target market.](image-url)
**Marketing strategies based on market dominance**

Firms are classified based on their market share or dominance of an industry. Typically there are four types of market dominance strategies.

- Leader
- Challenger
- Follower
- Niches

**Innovation strategies**

This deal with the firm.s new product development and model innovation. It asks whether the company is on the cutting edge of technology and business innovation. There are three types.

- Pioneers
- Close follower
- Late follower

**Warfare strategies**

This scheme draws parallels between marketing strategies and military strategies. There are many types of marketing warfare strategies; they can be grouped into;

- Offensive marketing strategy
- Defensive marketing strategy
- Flanking marketing strategy
- Guerrilla marketing strategy

1.3.4 **Market segmentation**

For a proper market strategy, the right segmentation is very important in order to identify the right target market and positioning. Now a day a company cannot serve all customers in a market, there are numerous customers and each of them does not have the same requirement. More it is too costly and require too much of resources. Nowadays mass marketing is very difficult due to many competitions, a large number of consumers, limited resources and numerous communication and distribution channel such as television, radio, internet marketing and kiosk marketing. Thus companies have turn to Micro marketing based on niche, region and individual and market segment.
Before starting segmentation of the market, we must range the consumers in a way that will be easy to target. In a market, no consumers have the same preference. There are 3 preferences that are involved in the market:

- Homogenous preferences, where all consumers tend to have roughly the same needs.
- Diffused preference, whereby all consumers are scattered in terms of their preference having different and non-similar needs.
- Clustered preference, which means the market might reveal different clusters called natural market segments. For doing the right segmentation, we must take into account.
- Homogenous preference as it is easy to target and consumer behavior can also be determined.

Assessing viable Market Segment

Segmentation is the process of dividing a market into subgroups of customers who have almost identical means and wants. Can consumer's behavior be analyzed? Are the segments accessible? Do the segments differ? Can profits be made? Is there fair competition? All these questions arise when deciding on segmenting the market.

For Market segments to be viable they must be:

- Measurable: Characteristics and needs of consumers can be measurable.
- Accessible: If company has the necessary resources.
- Substantial: The segment should be large enough so that profit can still be made in the long run.
- Differentiable: Each Segment should differ in terms of responsiveness to any marketing mix elements like price.
- Actionable: There should be fair competition and effective programs can be formulated for attracting and serving the market.

Finally the market has a fair competitive trend as well as very influential in attracting customers through advertising campaign.

Segmentation of the consumer market can be done through:

- Geographic
• Psychographic
• Behavioral
• Demographic

Geographic segmentation deals with segmenting the market in respect of nations, regions, city, density and neighbourhood.

Psychographic Segmentation, the market is segmented on the basis of lifestyle, personality, and values. Lifestyles segmentation is partly based whether consumers are time or money constrained. Personality segmentation consists of the characteristics of the consumer, such as being extrovert or introvert, authoritarian, ambitious and brand personality. Marketers can also segment the market through core values, such as beliefs, attitude and behavior.

Behavioral Segmentation the market is based on consumer knowledge, attitude toward use of or response to a product. Behavioral variables are occasions, benefits, user status, usage rate, loyalty status, buyer readiness stage and attitude. Occasions can be used to distinguish consumers when they develop a need, purchase or use of a product. Benefits segmentation deals with segmenting market as per what benefit consumers seek. User status also can be used by determining the type of user consumers on that market, are like non-users, ex-user, potential user, first time user and regular user.

Demographic Segmentation, the market is segmented on the basis of variables like Age and Life-stage, family life cycle, gender, income, occupation, education, religion, race, generation, nationality and social class. Age and life-Stage segmentation deals with segmenting the market by age group like people less than 14. Family life cycle segmentation provide for the market to be segmented into segments that are related to the change in pattern of consumption as a person passes the life cycle like adolescent to young adult or bachelor to married person. Gender segmentation in to segment the market in term of sex whether male or female. Income, education and Occupation segmentation deals with the segmentation of the market by the salary earned, level of education and work of the customers. Religion, race, generation, nationality, and social class segmentation segments the market into group of customers having specific social background.
For the new product, segmentation’s bases that would be relevant for segmentation would be Age and life-stage, lifestyle and Benefits segmentations as noted through the questionnaire. Customers, pattern of consumption differ by age like an adolescent will a product depending on the amount the latter gets form his/her parent while a young adult working would not depend on his/her parent to buy a product.

**Segmentation Process**

Now having known the bases for segmenting the market for the new product, we will now move to the segmentation process of the market. The process of segmentation involves a number of activities and steps and also it is very time consuming. But the overall result can be very rewarding to an organization. Robert J Best puts forward the segmentation process, which is very helpful for marketers to assess the right segment/s for their product.

**Needs based Segmentation**

In Needs-Based Segment, we group customers that are demanding the services into segment based on their similar needs and benefits. For the new product, since segmentation will be based on Age and Life-Stage, Lifestyle and Benefits segmentation, we will have sixty segments of the market for telecom services. It shows relevant segments in the market using the parameters of Age and life-stage, Lifestyle and Benefits Segmentation.

Segment Attractiveness- Segment attractiveness is to determine the segments that are our potential ones in term of market growth, competitive intensity and market access. Through the questionnaire, it was found that our potential users are those between 18-25 and 26-41 years old. The age group <18 have much competition and accessibility to such segments may be very difficult. The other age group greater than 60 has a low market growth and here also accessibility to such segments is though.

**Segment profitability**

Segment Profitability deals with analyzing of each segment's profitability. The attractive segments as discussed above are very promising in term of profitability. Since consumers
in those segments are demanding a product that has high quality and a good features, a rise in sales of such product can be already predicted.

**Segment Positioning**

Segment positioning deals with creating a ‘Value Proposition’ and product-price positioning strategy based on the segment’s unique customer needs and characteristics. The attractive segments discussed above can be said that these segments consumers are ready to pay more for a high quality. Thus based on this, our price will determine the value of quality the consumer is seeking.

**1.3.5 Marketing-Mix Strategy**

Marketing mix is originating from the single P (price) of microeconomic theory (Chong, 2003). McCarthy (1964) offered the “marketing mix”, often referred to as the “4Ps”, as a means of translating marketing planning into practice (Bennett, 1997). Marketing mix is not a scientific theory, but merely a conceptual framework that identifies the principal decision making managers make in configuring their offerings to suit consumer’s needs. The tools can be used to develop both long-term strategies and short-term tactical programmes (Palmer, 2004). The proportions in the marketing mix can be altered in the same way and differ from the product to product (Hodder Education, n.d). The marketing mix management paradigm has dominated marketing thought, research and practice (Grönroos, 1994), and “as a creator of differentiation” (Van Waterschoot, n.d) since it was introduced in 1940s. Kent (1986) refers to the 4Ps of the marketing mix as “the holy quadruple…of the marketing faith…written in tablets of stone”.

Marketing mix has been extremely influential in informing the development of both marketing theory and practice (Möller, 2006). The main reasons the marketing mix is a powerful concept are It makes marketing seem easy to handle, allows the separation of marketing from other activities of the firm and the delegation of marketing tasks to specialists; and – The components of the marketing mix can change a firms competitive position (Grönroos, 1994). The marketing mix concept also has two important benefits. First, it is an important tool used to enable one to see that the marketing managers job is, in a large part, a matter of trading
off the benefits of one.s competitive strengths in the marketing mix against the benefits of others.

The second benefit of the marketing mix is that it helps to reveal another dimension of the marketing managers job. All managers have to allocate available resources among various demands, and the marketing manager will in turn allocate these available resources among the various competitive devices of the marketing mix. In doing so, this will help to instill the marketing philosophy in the organization (Low and Tan, 1995). However, Möller (2006) highlighted that the shortcomings of the 4Ps marketing mix framework, as the pillars of the traditional marketing management have frequently become the target of intense criticism.

**History and Implementation of Marketing Mix**

Borden (1965) claims to be the first to have used the term “marketing mix” and that it was suggested to him by Cullitons (1948) description of a business executive as “mixer of ingredients”. An executive is “a mixer of ingredients, who sometimes follows a recipe as he goes along, sometimes adapts a recipe to the ingredients immediately available, and sometimes experiments with or invents ingredients no one else has tried” (Culliton, 1948). The early marketing concept in a similar way to the notion of the marketing mix, based on the idea of action parameters presented in 1930s by Stackelberg (1939). Rasmussen (1955) then developed what became known as parameter theory. He proposes that the four determinants of competition and sales are price, quality, service and advertising. Mickwitz (1959) applies this theory to the Product Life Cycle Concept. Bordens original marketing mix had a set of 12 elements namely: product planning; pricing; branding; channels of distribution; personal selling; advertising; promotions; packaging; display; servicing; physical handling; and fact finding and analysis. Frey (1961) suggests that marketing variables should be divided into two parts: the offering (product, packaging, brand, price and service) and the methods and tools (distribution channels, personal selling, advertising, sales promotion and publicity). On the other hand, Lazer and Kelly (1962) and Lazer, Culley and Staudt (1973) suggested three elements of marketing mix: the goods and services mix, the distribution mix and the communication mix. McCarthy (1964) refined Bordens (1965) idea further and defined
the marketing mix as a combination of all of the factors at a marketing manager's command to satisfy the target market. He regrouped Borden's 12 elements to four elements or 4Ps, namely product, price, promotion and place at a marketing manager's command to satisfy the target market.

Especially in 1980s onward, number of researchers proposes new P. into the marketing mix. Judd (1987) proposes a fifth P (people). Booms and Bitner (1980) add 3 Ps (participants, physical evidence and process) to the original 4 Ps to apply the marketing mix concept to service. Kotler (1986) adds political power and public opinion formation to the Ps concept. Baumgartner (1991) suggests the concept of 15 Ps. MaGrath (1986) suggests the addition of 3 Ps (personnel, physical facilities and process management). Vignalis and Davis (1994) suggest the addition of S (service) to the marketing mix. Goldsmith (1999) suggests that there should be 8 Ps (product, price, place, promotion, participants, physical evidence, process and personalization). Möller (2006) presents an up-to-date picture of the current standing in the debate around the Mix as marketing paradigm and predominant marketing management tool by reviewing academic views from five marketing management sub-disciplines (consumer marketing, relationship marketing, services marketing, retail marketing and industrial marketing) and an emerging marketing (E-Commerce). Most of researchers and writers reviewed in these domains express serious doubts as to the role of the Mix as marketing management tool in its original form, proposing alternative approaches, which is adding new parameters to the original Mix or replacing it with alternative frameworks altogether.

The concept of 4Ps has been criticized

Development of marketing mix has received considerable academic and industry attention. Numerous modifications to the 4Ps framework have been proposed, the most concerted criticism has come from the services marketing area (Rafiq and Ahmed, 1995).

The introductory marketing texts suggest that all parts of the marketing mix (4Ps) are equally important, since a deficiency in any one can mean failure (Kellerman, Gordon and Hekmat, 1995). Number of studies of industrial marketers and purchasers indicated
that the marketing mix components differ significantly in importance (Jackson, Burdick and Keith, 1985).

Two surveys focused on determination of key marketing policies and procedures common to successful manufacturing firms (Jackson, Burdick and Keith, 1985). Udell (1964) determined that these key policies and procedures included those related to product efforts and sales efforts. This followed in order by promotion, price, and place. In a replication of this survey, Robicheaux (1976) found that key marketing policies had changed significantly. Pricing was considered the most important marketing activity in Robicheaux’s (1976) survey, although it ranked only sixth in Udell’s (1964) survey. Udell (1968) found that sales efforts were rated as most important, followed by product efforts, pricing, and distribution. LaLonde (1977) found product related criteria to be most important, followed by distribution, price, and promotion. Perreault and Russ (1976) found that product quality was considered most important, followed by distribution service and price. McDaniel and Hise, (1984) found that chief executive officers judge two of the 4 Ps, pricing and product to be somewhat more important than the other two place (physical distribution) and promotion.

Kurtz and Boone (1987) found that on the average, business persons ranked the 4 Ps to be of most importance in the following order: price, product, distribution, and promotion. Thus, it appears from these studies that business executives do not really view the 4 Ps as being equally important, but consider the price and product components to be the most important (Kellerman, Gordon and Hekmat, 1995).

The concept of 4Ps has been criticized as being a production-oriented definition of marketing, and not a customer-oriented (Popovic, 2006). It.s referred to as a marketing management perspective. Lauterborn (1990) claims that each of these variables should also be seen from a consumer.s perspective. This transformation is accomplished by converting product into customer solution, price into cost to the customer, place into convenience, and promotion into communication, or the 4C.s. Möller (2006) highlighted 3-4 key criticisms against the Marketing Mix framework: The Mix does not consider customer behavior but is internally oriented. The Mix regards customers as passive; it does not allow interaction and cannot capture relationships. The Mix is void of theoretical
content; it works primarily as a simplistic device focusing the attention of management. The Mix does not offer help for personification of marketing activities. A review of another article, “Revision: Reviewing the Marketing Mix” (Fakeideas, 2008) found that: The mix does not take into consideration the unique elements of services marketing. Product is stated in the singular but most companies do not sell a product in isolation. Marketers sell product lines, or brands, all interconnected in the mind of the consumer. The mix does not mention relationship building which has become a major marketing focus, or the experiences that consumers buy.

The conceptualization of the mix has implied marketers are the central element. This is not the case. Marketing is meant to be customer-focused management. Even, a study by Rafiq and Ahmed (1995) found that there is a high degree of dissatisfaction with the 4Ps, however, 4Ps is thought to be most relevant for introductory marketing and consumer marketing. The result also suggests that the 7Ps framework has already achieved a high degree of acceptance as a generic marketing mix among our sample of respondents.

**Forces Behind Market Integration**

- Improved Communications:
- Greater Revenue
- Lower Cost of Goods/Services Sold
- Protection of Domestic Market
- Attack in competitors Home Market

**Factors Which Influence the Marketing Mix Decisions**

According to Bearden (2001), there are certain environmental factors that influence the marketing mix decisions and those are:

- Social Environment
- Cultural Environment
- Economic Environment
- Political-Legal Environment
- Technological Environment
- Competitive Environment
- Institutional Environment
1.3.6 Development of Conceptual Model

From the above study of different factors and forces, we concluded, there are different variables which are affecting the businesses and the marketing mix decisions of a company, when it goes in more expanded and integrated market. After this effect, company has to change its marketing mix strategies due to market expansion. With the help of above explanations and model, a new model is developed by us in which certain above mentioned factors and variables are included and their impact on marketing strategies of a company are shown. The development of a new model is based on our findings. This topic of regionalization is studied and discussed in literature very well but to the extent of our study, we couldn't find a single model which indicates the impact of an open market on the marketing mix strategies of the company. Regionalization concept is studied and discussed in detail but on the economical and country level and not on the level of a firm and its marketing behavior. There are a lot of fragmented models by different authors which show the regional markets and company.s behavior towards them and their overall business strategies but our model shows only those variables which force the companies to rethink about its marketing mix decisions which ultimately have an impact on the regional strategies of a company. Now how the marketing mix decisions of a company is affected by different variables is shown in the model below.

Explanation of Conceptual Model

In the model we see three parts. One consists of different variables which are the result of open borders due to regionalization. We can call these variables the opportunities created due to regionalization. The other part which is influenced by these variables is the marketing mix decision of the company. When company observe the opportunities definitely it has to rethink about its marketing mix decisions to get really fruits of these opportunities so company think about its marketing mix decisions. When company changes its marketing mix decisions, according to the new market environment to get more benefits, this factor effects the marketing mix strategies of the company which are mentioned in the third part of the conceptual model.
Explanations of Variables Mentioned in the Conceptual Model

Variables and factors which we found during our study and mentioned in the conceptual model, these are actually those opportunities which are the result of open borders due to market integration and expansion. These variables have an impact on the marketing mix decisions of the company which drive its marketing strategies.

Economic integration creates large mass markets for the marketer. Many national markets, to small to bother with individually, take on new dimensions and significance when combined with markets from cooperating countries. Large market are particularly important to businesses accustomed to mass production and mass distribution because of the economies of scale and marketing efficiencies that can be achieved. In highly competitive markets, the benefits derived from enhanced efficiencies are often passed along as lower prices that lead to increased purchasing power.

Removal of trade barriers is like a market enlargement, as separate national markets move towards integration in a regional market. This allows firms to benefit from greater scale and attracts investment projects for which market size is important, including foreign direct investment. Removing barriers also forces firms from different member countries into closer competition with each other and this factor can be a threat for the companies but possibly inducing them to make efficiency improvements.

Easy and cheap communication technology improves the speed with which information and knowledge can be accessed and transferred, so the world becomes smaller. This does not mean that we are close to the complete standardization of marketing strategies, programs and processes (Doole & Lowe 2001). A rapid development in communication made the companies possible to develop their business activities in overseas markets more easy and profitable.

The companies, going to operate across the borders has to face certain problems like delays at borders, form-filling, recertification of products etc. Even if there are no duties, border formalities themselves create barriers and can be quite wasteful but now, due to more open market and integration, certain procedures are implemented to avoid certain legal hindrances which can directly or indirectly affect the marketing activities of the company (Trade Blocs, World Bank Report, 2000).
Many countries are too small to support, separately activities that are subject to large economies of scale. This might be because insufficient quantities of specialized inputs are available, or because markets are too small to generate the sales necessary to cover costs. Regional cooperation offers one route to overcome the disadvantages of smallness, by pooling resources or combining markets. Note that the disadvantage of smallness can also be overcome through unilateral trade liberalization and fair operating environment (Trade Blocs, World Bank Report, 2000). Competition and economies of scale effects arise as separate national markets become more integrated in a single unified, market. The large market permits economies of scale to be achieved and brings producers in member countries into closer contact-and competition-with each other. Entrenched monopoly positions are eroded, promoting efficiency gains within firms. A trade bloc combines markets, making it possible to reduced monopoly power as firms from different countries are brought into more intense competition. This can yield three types of gain. Firms are induced to cut prices and to expand sales, benefiting consumers as the monopolistic distortion is reduced. The second source of gain arises as market enlargement allows firms to exploit economies of scale more fully. In a market of a given size there is a tradeoff between scale economies and competition- if firm are larger, then there are fewer of them and the market is less competitive. Enlarging the market shifts this tradeoff, as it becomes possible to have both larger firms and more competition. The third source of gains comes from possible reductions in internal inefficiencies that firms are induced to make. If the RIA increases the intensity of competition, it may induce firms to eliminate internal inefficiencies and raises productivity levels (Doole, 2001). Technology is converging in and between industries with similar processes and ideas are being used, for example, in telecommunications, information technology hardware and software, entertainment and consumer electronics, so that new product and services cross the traditional boundaries between the industry sectors. New technology are adopted around the world at every grater speeds and in many industries this is being driven by a small number of global players that have the market power to customers to make wider application of the ideas more cost effective. In this way the globalization of technology is contributing very significantly to the competitive advantage of the MNEs
who are able to market it in a number of industry sectors because they have developed effective distribution channels and international promotion (Trade Blocs, World Bank Report, 2000). As EU developed a single internal market, it became necessary for the firms operating in area to join the market as it was the need of time. So we see, as companies cross the national boundaries, they become global customers as well as local market saturation also forces the companies to experience the taste of foreign market (Ball, 2002).

1.3.7 Marketing Mix Decisions of Company (4 P’s)

A marketing mix is the overall marketing offer to appeal to the target market. It consists of decision in four basic areas: product (development of a product, service, or idea to exchange), pricing (what to charge for the exchange), and integrated marketing communications (how to communicate with the target market about the possible exchange), and distribution (how to get the product, service, or idea to the target market to consummate the exchange), (Bearden, 2001).

Marketing Mix Strategies of Company

According to our model, marketing mix strategies are influenced by the company’s marketing mix decisions while marketing mix decisions are influenced by the regional market environment, demand and size and cultural differences of the country. It means due to regionalization, company thinks about its marketing mix and then adopts the standardization or other strategies which can be based on different factors like demand, competition and cost factor.

In practice firms adopt a combination of standardization and adaptation of the various elements of the marketing management programs and processes by globalizing some elements and localizing others. In broad terms it is possible to categories a firm’s strategic development as multi-domestic, global or regional, a third alternative strategy in which separate, but largely standardized marketing strategies are implemented in different regions of the world (Doole & Lowe, 2001).

- Standardized marketing strategy: Where a firm develops and implements the same product, price, distribution, and promotion strategies in all markets.
Customized marketing strategy: Where a firm develops and implements a different marketing mix for each target market.

1.4 NEED OF STUDY: AN OVERVIEW

It is well perceived fact that service marketing has become the important factors of business success. However many conclusions have been drawn with regard to marketing strategy. But there are very few studies related with marketing strategy in telecom sector with special reference to India. Long ago, Peter Drucker wrote that any business enterprise has only two basic function; marketing and innovation (Peter Drucker, the Practice Of Management, 1954). The central role of marketing in the enterprise stems from the fact that marketing is the process via which a firm creates value for its chosen customer. Value is created by meeting customer needs.

Thus, firm needs to define itself not by the product it sells, but by the customer benefit provided.

The data from at least an empirical study suggest that service firm managers perceive demand fluctuations as their biggest managerial headache (Zeithml et.al.1985). Marketers of physical goods can hold inventories to buffer fluctuations in demand and supply, but services are acts or processes and therefore, difficult or impossible to inventory (Rathmell, 1996; Sasser, 1976).

This research attempts to test an adaptation of the marketing mix element of service marketing in the Telecommunication context. Although the main variables were mostly from marketing mix frame work there should be 8P’s.(goldsmith 1999), the dimensions and the items were adapted significantly to the context of telecom service users. Therefore, one of the primary contributions of this research is to test the applicability and extendibility of the marketing strategy the domain of telecom service providers.

In Indian Telecom Sector mobile telephony is called as “sun-rise industry It is one of the growing industries in the country rapid growing with rate of subscriber base tele-density and traffic. Indian telecom sector holds huge potential for growth because of following reasons.

• Liberalizations and privatization has brought around 12 majors in both GSM and CDMA sectors. With intense competition, companies try to woo and retain
customers for longer period of time. For which, trust and commitment are key variables to maximize the average revenue per user.

- Impact of technology
- Impact of FDI flows
- Companies are spending heavily on acquisition and retention of subscribers. To what extent, different telecom services providers are able to build long term relationship require further analysis.

1.4.1 Significance of Study
Long ago, Peter Drucker wrote that any business enterprise has only two basic functions; marketing and innovation (Peter Drucker, the practice of management, 1954). The central role of marketing in the enterprise stems from the fact that marketing is the process via which a firm creates value for its chosen customer. Value is created by meeting customer needs. Thus, firm needs to define itself not by the product it sells, but by the customer benefit provided.

- Target Market
Marketing strategy development begins with the customers. A prerequisite to the development of the rest of the marketing strategy is specialization of the target markets the company will attempt to serve marketers have generally been moving from serving large mass market to specialization of smaller segments with customized marketing programme. Now new technology enable firms to practice customize marketing on an economical basis in many situations. (Boston, Mass; HBS Press, 1993).

- Segmentation
Market can be segmented in variety of way, (Addison – Wesley 1998). Among the most widely used bases are;
  - Demographic (age, income, gender, occupation)
  - Geographic (nation, region of country, urban / rural)
  - Life style
As part of segmentation and target market selection process, the firm has to play out scenario, i.e. consider the question; if we pursue this segment, how would we approach it and how would we want potential buyers to see us? the answer should be formalized in a
positioning statement specifying the position the firm wishes to occupy in the target customers. (Ries and Trout, 1986)^44.

- **Marketing Element**

Neil Borden of Harvard Business School used the term marketing mix to describe the set of activities comprising a firm's marketing program. He noted how firms competing in a given product category can have dramatically different mixes at work. He specified 12 elements. (Boston, Mass, HSB Press. 1991). Merchandising, Pricing, Branding, Channel of distribution, Personal selling, Advertising, Promotions, Packaging, Display Servicing, Physical handling, Market research.

- **Product**

Product decisions start with an understanding of what a product is, viz the product offering is not the thing itself, but rather the total package of benefits of names e.g. the total product concept, the argument product, or the integrated product. For marketing strategy development purpose, the product has to be considered from the point of value delivered to the customer. Value can be delivered simultaneously by a number of vehicles. (HBR Press - marketing in an age of diversity - Sept-Oct-1988).

Testing with consumers can be done via a number of procedures e.g. surveys, taste tests, simulated test markets, and actual test markets for consumer goods and beta tests for industrial goods. Testing is appropriate not only for the product itself but also for the supporting elements of the marketing mix, such as the communication strategy and price. (C.M.Crawford, 1997). (Addison/Wesley, 1993)^45.

- **Place**

Kash rangan of Harvard business school has identified eight "generic channel functions which serves as a starting place for assessing needs in a particular context; (V.K.Rangan, 1995)^46. Information, customization, quality assurance, lot size, assortment, viability, after sales services, logistic.

Customer driven “system assessing the channel structure and management mechanisms that will best perform the need function (Englewood, 1996)^47.

The two major decisions in channels are:

1. Channel design: - which involve both a length and breadth issue
2. Channel management: what policies and procedures will be used to have the necessary functions performed by the various parties?

- **Promotion**

  The marketing communication mix is potentially extensive, e.g. including “non personal “ elements such as; advertising, sales promotion events, direct marketing, public relations, packaging, trade shows, as well as personal selling,(P.W.Farris and J.A. Quelch, Chilton, 1983).

  Advertising is limited in its ability to actually close to the sales and make a transaction happen; sales promotions may be an effective device to complement the favorable attitude development for which advertising is appropriate,(D.A. aaler, R. batra, and J.G. Myers, Englewood cliffs, 1992)\(^{48}\).

  A sales promotion includes things such as samples, coupons, and contests. These are usually most effective when used as a short term inducement to generate action. The three major types of sales promotions are consumer promotions, trade promotions, retail promotions, (R.C. Blattberg and S.A. Neslin, Englewood 1990)\(^{49}\).

  The combination of the three P’s product, place, and promotion determine the target customer’s perception of the value of the firm’s product in a given competitive context conceptually, this perceived value represents the maximum price which the customer is willing to pay. This should be the primary guide to pricing the product. Once the firm has created value for customers, it is entitled to capture some of that value for itself to fund future value creation efforts. This is the role of effective pricing.(R.J. Dolan and H. Simon, 1996)\(^{50}\).

- **Price**

  In most situations, cost should act as a floor on pricing. In some circumstances, a firm intentionally sells at a loss for a time to establish a position in the market, but it is often difficult to increase prices later due to the customer’s use of the introductory price as a reference point. There are basically two pricing strategy as skimming and penetration pricing strategy. In penetration pricing, the firm sets a lower price to generate lots of sales quickly. This leaves money on the table with the high value customers, but is designed to preempt competition and gain a significant number of customers early on. The appeal of
a penetration strategy increases to the extent that (1) customers are sensitive to price (2) economies of scale (3) adequate production capacity is available (4) there is threat of competition. In skimming strategy, the focus is on those customers with high value – skimming the cream off the top of market.

- **Service v/s Physical goods**
  Marketers of physical goods can hold inventories to buffer fluctuations in demand and supply, but services are acts or processes and therefore, difficult or impossible to inventory. (Rathmell, 1996; Sasser, 1976)

The other three P’s in addition to Products are:

- **People**
  The employees of the service organization must be well trained to handle the human beings.

- **Process**
  The process related to the delivery of service and handling the grievances should be simple and understandable by all the stakeholders.

- **Physical Evidence**
  As the service is invisible, proper physical settings and layouts should be so that the delivery of the service is evident effectively and efficiently.

Mabert (1986) found that service firms tend to design staffing plans based on peak demand situations, resulting in substantial idle timing during slack periods. Disequilibrium situations would never occur in a perfect world with managers who are devoted supplements to the marketing concept. Even the best planner, however, cannot always prepare a service organization for unpredictable swings in consumer demand, ultimately equipment failures, or a sick call contagion (Khumwala et al. 1986). Service enterprises may benefit by transferring risks to employees, but marketing managers and CEO.s eschew transferring risk too customers (e.g. making customer wait) (Zeithml et.al, 1981).

The data from at least an empirical study suggest that service firm managers perceive demand fluctuations as their biggest managerial headache (Zeithml et.al. 1985).

**1.4.2 Rationale of the Study**
Many researchers identified that customer share is very important apart from attracting customer (Hoekstra, Leeflang and Milting, 1993; Reichheld 1996). Customer share is defined as the ratio of a customer’s purchase of a particular category of product or services from suppliers X to the customer’s total purchase of that category of product or services from all suppliers (Peppers and Rogers 1999). CRM is one of the important functions in the communication industry. But generally these industries not fully accepted the CRM tools and techniques. Time has come when without any CRM strategies; they cannot survive in this fast growing market or they cannot have their existence for a long time. Hence it is of great interest to examine the CRM strategies adopted by different mobile companies.

Telecommunication markets have changed dramatically in recent years. Customers in many countries who used to have only one service provider now have a wide variety to choose from. The fight to attract and keep customers has resulted in the development of marketing strategies. The telecom companies are developing a mix of marketing tools to establish and build profitable customer relationships, we focus on the need for companies to be market oriented by building up the ability to manage networks, relationships and interactions (Gronroos, 1983; Gummesson, 1987). It has been fully accepted in marketing literature that long term customers are more profitable than short-term customers (Reichheld and Teal, 1996). Holistic marketing approach for services requires external marketing which deals with the interaction of the company as a whole with the customer in terms of company product, price, distribution channels, and promotion activities, internal marketing is the process of engaging the support and commitment of employees and other organizational members for the goals and objectives of the company (Lancaster and Reynolds, 2004) and interactive marketing deals with the interaction of frontline employees with customers in terms of understanding and solving customers' problems attentively.

Marketing communication is defined as all strategies, tactics, and activities involved in getting the desired marketing messages to intended target markets, regardless of the media use. The mix includes advertising, personal contact, publicity and public relation, sales promotion, instruction materials and corporate design (Lovelock and Wirtl, 2004).
There are higher marketing costs associated with generating interest in new customers as opposed to already informed existing customers. The marketing cost involves in the creation of interest in an uniformed new customer for outweigh involved in maintaining the relationship necessary to continue exchanges between buyer and seller. It has been estimated that the cost of attracting new customers can be as high as six times that of retaining existing customers. Strong customer relationships with a high degree of familiarity and communications on both sides can generate more practical new product idea from customer and contact personal (Kiess-Moser and Barnes 1992). Across a wide range of businesses, the pattern is the same, longer a company keeps a customer, the more money it tends to make (Reich held and Sasser, 1990). This research is to be test the effectiveness of various tools and element of marketing mix in marketing strategies to the domain of telecom service providers.

In Indian telecom sector is called “sun rise “industry. It is one of the growing industries in the country rapid growing with rate of subscribers base teledensity and traffic. Indian telecom sector hold huge potential for growth because of numbers of growth drivers.

1.6 THE DATA & METHODOLOGY

This research has selected six telecom service providers --- BSNL, TATA, Reliance, and Airtel, Vodafone, Idea from major cities of Punjab state. It is based on selected sample of Telecom service subscribers, dealers and telecom service providers. This research adopts combination of primary and secondary source of information.

This study is based on primary and secondary data. The main sources of secondary data are published reports of World Telecommunications Development, Department of Telecommunications, Indian Telecom Policy, and Year book of Statistics, Journals, Books and various websites of the Service providers.

The primary data is collected through the questionnaire and personal Interviews. Seven major telecom operators are selected. Respondents are selected for administering questionnaire at the touch-points of these selected telecom operators in the selected towns. Besides this, a sample of 30 questionnaires is collected from employees and of 60 from the dealers of selected telecom-operators.
The data collected will be analyzed using various statistical tools. The basic framework of the model consisted of unobservable theoretical constructs, which would not be measured directly. So, this study used a set of indicator variables, which measured the unobservable constructs. To tackle the problem of measuring the latent variables, usually two strategies are followed. The first is selection of a single indicator variable for each theoretical construct. However, in most cases, it is unrealistic to assume that a single indicator variable provide a reliable measure of the latent variables.

The second method is to assign pre-determined weights to different indicator variables. However, both these methods are prone to error. Dillon and Goldstein (1984), showed that when such measures are used in linear models, the coefficients would have an unknown bias.

Tests for significance are less useful in small samples (less than 30) and quite sensitive in large samples (exceeding 1,000 observations) (Hair et al., 1995). Thus, both graphical and statistical tests are carried out using SPSS version 10.0 for Windows to assess the actual degree of departure from normality the mean, standard deviation and reliability estimate of each model construct.

1.5.1 Defining the research problem:
The research problem of this proposal is to study “Customer Relationship Management Strategies Adopted By Mobile Companies In Punjab”.

1.6.2 Objectives of study:
1. To study the existing marketing strategies adopted by telecom industries
2. To work out the growing challenges faces by telecom sector
3. To analyses the role of various marketing techniques in telecom sector.
4. To study the customer response on various marketing MIX adopted by telecom sector companies.
5. To study the rapid growth of Indian telecom sector.
6. To suggest managerial implications to Indian Telecom Industry to build effective marketing strategy.

1.5.3 Hypothesis of study:
H1: There is significant impact of various marketing mix element in purchasing decision of consumer.

H2: There is no significant difference in service or product pricing among telecom service provider.

H3: There is service charges are depends on telecom service providers.

H4: There is no significant difference on availing of services by subscribers and telecom service providers.

H5: There are usage of services depends on telecom service providers.

H6: There is significant influence of service quality on customer satisfaction.

H7: There is significant influence of people & process on level of customer satisfaction.

H8: There is no significant relationship between marketing strategy and demographic variables.

H9: There are no significant challenges in telecom sector.

1.5.4 Scope of the study:
Study is year 2005 to 2012 and covers all major cities of Punjab state (as revenue centers). The cities covered are Mohali, Patiala, Jalandhar, Ludhiana, Sangrur.

1.5.5 Sample design:

Sampling Technique The data will be collected on the basis of **Stratified Random Sampling**. Five service providers from three different cities of each district shall be taken for study i.e. total of 105 from 7 no. companies

Sample Size would be 700 i.e. 100 customers of each company taken under the studies.

Sample Unit It consist of all customer base as subscribers of telecom services of BSNL, Reliance Telecommunication Ltd, Tata Teleservices Ltd, Bharti Telecom Ltd (AIRTEL), Idea Ltd, Vodafone Ltd, HFCL (Connect).

1.5.6 Data Collection

Primary Data Collection Technique
For meeting the first objective, the tool used to collect data is structured questionnaires. The questionnaire was used to elicit information on element of marketing strategy like, marketing communication mix, promotion mix, product mix, channel availability, price,
service quality etc. The questions are framed for analysing the various components of CRM as Service quality, satisfaction, Trust, Commitment, Loyalty and Customer relationship. Seven major telecom service provider in Punjab, BSNL, Reliance telecommunication ltd, Tata Teleservices ltd., Bharti Telecommunication ltd (AIRTEL), Idea ltd., Vodafone ltd., HFCL (Connect), Through random systematic sampling.  

Secondary Data Collection Technique  
The main sources of secondary data was published research papers/reports of DoT & World telecommunication development , Indian telecom policy, Research journals, White Papers, Unpublished Papers, Ministry of Telecommunication statistics, magazines like advertising express, business world, Book and various websites of telecom operators.  

1.5.7 Data Analysis  

Statistically analysis of Data  
The data obtained in the present study were analysed using suitable tools study the impact of marketing mix on overall telecom sector and to study the impact of product and service quality on customer satisfaction. The following statistical treatments were used for interpretation of data.  

• Percentage  
The various product and services, demographic variables were analysed through percentage method with pictorial representation by graphs.  

• Chi-Square Test  
The chi-square test was used because there were no independent values, as this is the only method which can be used when independent values are not present. Furthermore, this method was used to check the probability of occurrence and variation between different independent variables.  

• Two Way ANOVA Test  
Two-way analysis of variance (ANOVA) tests (also called two-factor analysis of variance) measure the effects of two factors simultaneously. A two-way test generates three p-values, one for each parameter independently, and one measuring the interaction between the two parameters.
In addition to this, the following statistical tools have also been used to sharpen the inferences drawn on the basis of simple description of facts and to analyse the data:

- **Mean of Individual Series**
  It is used to get the average of items disclosed by the banking companies. The mean values have been calculated by the following formula:

\[
\bar{x} = \frac{\sum X}{N}
\]

Where \( \sum X = \) Sum of all the values of the variable \( x \) and \( N = \) Number of observations.

- **Mean of Continuous Series**
  It is used to study the average number of items disclosed by the banks and improvement in average number of items disclosed over the period of study. The mean values have been calculated by using the following formula:

\[
\bar{x} = A + \frac{\sum fdx}{N}
\]

Where \( A = \) Assumed Mean, \( dx = \) Deviation of midpoints from assumed mean, \( f = \) Frequency and \( N = \) Sum of the frequency

- **Standard Deviation**
  It is used to study the variation in the items disclosed by the banking companies. The following formula is used to get the value of standard deviation:

\[
S.D. = \sqrt{\frac{\sum fd^2 - \left( \frac{\sum fd}{N} \right)^2}{N}}
\]

Where \( d = \) Deviations taken from assumed mean, \( f = \) frequency and \( N = \) Sum of the frequency
• **Coefficient of Variation**

It is used to study the variation in the items disclosed by the banking companies more precisely. The following formula is used to calculate the value of C.V. :

\[
C.V = \frac{\sigma}{X} \times 100
\]

Where \( \sigma \) = Value of standard deviation and \( X \) = Value of mean

• **Weighted Average Score**

It is used to study the investors’ preferences and views expressed in terms of ranks of preference. The following formula is used for this purpose

\[
\overline{X_w} = \frac{\sum WX}{\sum W}
\]

Where \( W \) = Weights given and \( X \) = Variable values

• **Spearman Rank Correlation Coefficient**

It is used to study the degree of correlation among the different variables and customers of different banks, on the basis of their educational level, equity holding, experience and location, about the preferences given to various items of reports.

The following formula is used for finding out the rank correlation:

\[
R = 1 - \frac{6 \sum d^2}{N(n^2 - 1)}
\]

In case ranks are repeated:

\[
R = 1 - \frac{6 \left( \sum d^2 + \frac{1}{12} (m^3 - m) + \frac{1}{12} (m^3 - m) + \ldots \ldots \right)}{n (n^2 - 1)}
\]
• **Range**

It is used to categories the view expressed by investors about various items into Very Important, important, less important, not important and can’t say categories. The following formula is used to calculate the range of weighted average scores:

\[
\text{Range} = H - L
\]

The range so obtained is divided by five in order to find out the range of above five categories.

• **The Kendall Coefficient of Concordance**

It is used to study the level of concordance among the different classes of customers and bankers about the preferences given by them to various items of questions. It is calculated by using the following formula:

\[
W = \frac{12 \sum R_i^2 - 3k^2N(N + 1)^2}{K^2N(N^2 - 1)}
\]

Where

- \( k \) = Number of sets of rankings,
- \( N \) = Number of objects being ranked and
- \( \sum R_i^2 \) = Sum of squared sums of ranks for each of the \( N \) objects

When the ranks are repeated, the following formula is used

\[
W = \frac{12 \sum R_i^2 - 3k^2N(N + 1)^2}{K^2N(N^2 - 1) - k\sum Ti}
\]

Where \( Ti \) means correction term.

As a result of the liberalization, privatization, and de-monopolization initiatives taken by the government of India, the telecom sector is experiencing a historical growth. The trend is expected to continue in the segment, as prices are falling as a result of competition in the segment. The beneficiaries of the competition are the consumers, who are given a wide variety of services. In the years to come the country is predicted to witness a
communication revolution, which would increase the subscriber base to match that of the developed world. The need of the time is a new revolution in telecom services and it is imperative that service providers work towards the same and make it a reality.

An important contribution of this study is how marketing strategy is developed and sustained over different target market in telecommunication sector. The future commitment of the customers to organization depends on perceived marketing element. The issue and challenges is therefore increasingly recognized as a critical success factor in the emerging scenario.

1.5.8 CHAPTER SCHEME

1. Introduction
   1.1 About Telecom Sector
   1.2 About Mobile Companies
   1.3 CRM & Mobile Companies
   1.4 Need Of Study: An Overview
   1.5 The Data & Methodology
2. Review of Literature
3. Analysis Of Data And Interpretations of Results
4. Findings, Implications & Conclusions
   4.1 Findings Of The Study
   4.2 Managerial Implications
   4.3 Directions For Future Research
   4.4 Conclusions
   Bibliography
   Annexure – I
   Annexure – II

1.5.9 LIMITATION OF THE STUDY
Like any other study, this one is also not without limitations. Since the scope of the study was limited to Punjab state. This study can be replicated in other states of Indian, in other
industries or for cross study and contexts for greater generalization. The following are limitation of study:

1. The sample is selected conveniently and in single phase so as the perception is influenced by time in which data was collected and the context in which the respondents were at the time of data collection.
2. The primary data and observational methods of research have its own limitations and based on respondent the study is limited to Punjab state.
3. The study is limited to selected telecom companies and selected revenue centres of the state and there for the findings cannot be generalize to whole industries.
4. There are many other approaches to study on marketing strategy of service sector; there is no unanimous opinion among the experts. So the researcher has taken appropriate approaches, which might be appropriate for the study.
5. The availability of the time and limited knowledge of researcher in the area is also to be considered.

REFERENCES

42. The development of customization strategies is covered in B.J.Pine II, Mass customization (Boston, Mass; Harward Business School Press,1993), and D.Peppers and M.Rogers, The one to one Future (Newyork;currency/doubleday,19930).
44. This concept of “Positioning” has been popularized by Ries and Trout in positioning; the battle for your mind, 1st edition, Revised, McGraw Hill, 1986.
46. V.K.Rangam, “Designing channels of distribution “, HBS No.594-116, also reprinted in V.K.Rangam, B.P.Shapiro, and R.T.Mariarty, Business Marketing strategy; concept and applications (Homewood, Ill; Irwin,1995).


60. Kiess – Moser and Barnes (1992), Emerging trends in Marketing Research, Conference board of Canada (Ottawa).