Chapter 1

INTRODUCTION

“The number of mergers and acquisitions in Telecom Sector has been increasing significantly. Telecommunications industry is one of the most profitable and rapidly developing industries in the world and it is regarded as an indispensable component of the worldwide utility and services sector. Telecommunication industry deals with various forms of communication mediums, for example mobile phones, fixed line phones, as well as Internet and broadband services”

-(Economy Watch)

This chapter is organized around the general topics about the research study on Customer Management strategy of BSNL in Punjab. A broad idea of the whole telecom sector is discussed here. This will be helpful in understanding the genesis of the telecom revolution era from 1990 onwards. The historical background is described here.

1.1 Brief History of Indian Telecom

Like the Ocean that is made of tiny drops, the Department of Posts and Telegraphs (P&T) had a slow and uneasy start. The department occupied a small corner of the Public Works Department (PWD) in 1851. Dr. William O. Shaughnessy, who pioneered telegraph and telephone in India, belonged to the PWD all through the experimental stage. A regular, separate department was opened around 1854, when telegraph facilities were thrown open to the public. (www.dot.gov.in)

The major events of interest are arranged chronologically in Annexure 1.1 and Annexure 1.2 which explain the long journey of telecom industry starting from its inception during British Rule onwards. The Telegraph Department during 1854-57 comprised a Superintendent of Telegraphs, with three Deputy Superintendents at Bombay, Madras and Pegu in Burma. There were Inspectors at Indore, Agra, Kanpur and Banaras and staff for operations and maintenance. Dr. O'Shaughnessy was the first Superintendent of Electric Telegraphs in India and later became the first Director General. The Indo-European Telegraph Department (later known as Overseas
Communications) was administered by a Director-in-Chief with headquarters in London. On the 15th February 1888, it was merged with the Director-General of the Indian Telegraph Department. It was also decided that the administration reports of the two departments, Indian Telegraph and the Indo-European Department, should be separated so as to show how each unit affected the finances of the country. The operations of the two separate services, Post Office and Telegraph Department developed side by side. On the eve of World War I, in 1914, the next big administrative change took place; the Postal Department and the Telegraph Department were amalgamated under a single Director-General. The process had started in 1912, but it was completed in 1914. (Telecommdaily, 2009)

A major reorganization of the department took place in April, 1925. The accounts of the Indian Posts and Telegraphs were reconstituted to examine the true fiscal profile of the department. The attempt was to find out the extent to which the department was imposing a burden on the taxpayers or bringing in revenue to the exchequer and to analyse how far each of the four constituent branches (postal, telegraph, telephone and wireless) were contributing towards the exchequer. It was further examined whether the rates charged from the public for the various services were inadequate or excessive. The Posts and Telegraphs, like all public and private undertakings, was a victim of the universal financial and economic depression that crashed on the world in 1930. During 1931, numerous economy measures had to be introduced according to the advice of the Posts and Telegraphs Sub-Committee to the Retrenchment Committee presided over by Sir Cowasjee Jehangir Jr. Naturally, the adoption of the various measures of retrenchment could not but have an adverse effect on the emoluments and interests of the personnel of the Department. (Aglasem, 2008)

From the beginning, P&T set up was run on welfare lines. Profit was not the motto. The annual report of the department for 1931 said "It is the accepted policy of the Government that the department should be so administered that there should be neither any substantial profit nor any substantial loss on its working under normal conditions. As has already been indicated, the achievement of this ideal has not proved possible owing mainly to the exceptional economic and trade conditions of recent years. One of the main
contributory causes was the revision and improvement in the pay scales of the employees of the department in recent years, with the approval of the Legislative Assembly. While the department is commonly spoken of as a 'commercial' one and is guided by the commercial considerations in the regulation of its business but, it must be realized that in many directions it is debarred from observing strict business principles. Many of the purposes which it is required to serve are non-remunerative and notably, in matters relating to the employment and control of staff, the department is bound by a large volume of statutory and other rules, necessary for the regulation of a public service”.

(www.dot.gov.in)

1.2 Tenth Five Year Plan and Telecom Policies

The annual five year plans are constructed to make efforts to improve the living conditions of the population of the country and make suitable infrastructure to attract the foreign investments. The Tenth Plan and subsequent national plans are to make an endeavor to build a modern and efficient telecom infrastructure with a view to provide world class telecommunications facilities at affordable rates; meet the needs of convergence of telecom, IT and media; and universal service to all uncovered areas. To achieve these goals, the major action points envisaged for the Tenth Plan were:

(i) To achieve a target of teledensity of 9.91 by March 2007, about 650 lakh new telephone connections needed to be provided during the plan period.

(ii) The telecom sector needs to be treated as an infrastructure sector for the next decade or so in order to achieve the targets of teledensity in line with the objectives laid out in the NTP-1999. This is envisaged also to help achieving substantially higher rate of growth of broadband to meet the requirements of other sectors of the economy especially Information Technology and Entertainment.

(iii) Government’s broad policy of taxes and regulation for the telecom sector has to be promotional in nature with a view to ensuring optimum growth in the coming years.

(iv) Ensuring fair and timely interconnection in the multi-operator scenario is one of the major inputs for sustaining high growth.
(v) The policy governing spectrum allocation and licensing has to be so designed that this scarce resource is used optimally and does not become a constraint for growth. Spectrum pricing need to be based on relative demand and supply over space and time in a dynamic manner and should promote introduction of spectrum efficient technology. A significant chunk of available spectrum is being used by defense, police and para-military forces.

(vi) Adequacy of funds has to be ensured for effective implementation of the USO (Universal Service Obligation).

(vii) The policy governing development of rural telecom services need to be promotional in nature with a view to boost teledensity in these areas in line with the objectives of NTP, 1999.

(viii) An outlay of Rs. 86984.00 crores including the budgetary support of Rs. 1500 crore had been approved for the Telecommunications sector for the Tenth Plan.

(www.planningcommission.nic.in)

The above brief of broad objectives of tenth plan appear to be guided by the National Telecom Policy 1999 (NTP-99) and it proves that the post reform era has to be customer oriented with increased availability of all kind of wireline and wireless services leading to convergence of technologies and markets leading to common man’s affordability of telephone connectivity. This is also in line with the study objectives relating to customer relations following post liberalisation policy of the Indian government.

1.2.1 National Telecom Policies

Telecommunications is one of the prime support services needed for rapid growth and modernization of various sectors of the economy. It has become especially important in recent years because of enormous growth of Information Technology (IT) and its significant impact on the rest of the economy. India is perceived to have a special comparative advantage in IT and in IT-enabled services. However, sustaining this advantage depends critically on high quality telecommunication infrastructure. Keeping this in view, the focus of Tenth pan was to be on the provision of world-class
telecommunication facilities at reasonable rates. Provision of telecom services in rural areas would be another thrust area to attain the goal of accelerated economic development and social change. Although the telecom network has grown rapidly in recent years, its growth needs to be accelerated further in the Tenth Plan. (Pandey 2009)

For a dynamic sector, reforms are a continuous process necessitated by dynamics of change including technological innovations. The telecom sector in India has been witnessing a continuous process of reforms since 1991. With the opening of international long distance services and Internet telephony from April, 2002, the process of liberalisation and opening of the sector for competition is complete. The New Telecom Policy (NTP) announced in 1999 modified the NTP-1994 to take into account the far-reaching technological developments taking place in the telecom sector globally and to implement the Government’s resolve to make India a global IT superpower. NTP-1999 also had sought to solve problems arising out of the implementation of NTP-1994. A comparison of targets and achievements for NTP-1994 is given in Table 1.1.

<table>
<thead>
<tr>
<th>Targets</th>
<th>Reality</th>
</tr>
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<tbody>
<tr>
<td>Teledensity to increase 2.5 to 3.0 by 2000</td>
<td>Teledensity in 1994 - 1.3, 1997 - 1.5: in rural areas 0.2, in urban areas 3.4; 84.7 per cent of telephone exchanges in urban areas</td>
</tr>
<tr>
<td>Telephone on demand in 1997</td>
<td>National waiting list is 2.88 million</td>
</tr>
<tr>
<td>All villages (576,000) to be connected by phone by 1997</td>
<td>267,782 villages covered</td>
</tr>
<tr>
<td>One PCO for every 500 persons by 1997</td>
<td>Total PCOs in the country 539,500</td>
</tr>
<tr>
<td>An additional 15.8 million direct exchange lines (DELs) by the end of March 1997</td>
<td>A total of 14.54 million DELs end-March 1997</td>
</tr>
<tr>
<td>Boost manufacture of telecom equipment</td>
<td>The growth rate of various products ranges between 120 per cent to 2,500 per cent</td>
</tr>
</tbody>
</table>

Table 1.1 National Telecom Policy-1994 Targets and Reality

Source: Dataquest, November 30, 1997
The Table 1.1 shows that targets set by NTP-94 could not be realized. The problems related to licensing, regulatory issues and incentives to telecom industry were the main reasons behind it. This justified the formulation of NTP-99 and change of license fee to revenue sharing regime.

The objectives of the NTP-1999 were to:

- Make available affordable and effective communications for the citizens.
- 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’s economy.
- Encourage the development of telecommunication 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, telecom and consumer electronics and thereby propel India into becoming an IT superpower.
- Convert Public Call Offices (PCOs), wherever justified, into Public Teleinfo centres offering multimedia services like Integrated Service Digital Network (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 (R&D) efforts in the country and provide an impetus to build world-class manufacturing capabilities.
- Achieve efficiency and transparency in spectrum management.
- Protect the defence and security interests of the country.
- Enable Indian telecom companies to become truly global players.

(www.dot.gov.in)

The next section deals with the critical analysis of telecom regulation and licensing process by telecom researchers.
1.3 The Regulatory Bodies and Telecom Licensing Regime

The existence of an independent and effective regulatory body is crucial for ensuring optimum growth and free and fair competition. The independence of the regulator depends to a large extent on the funding mechanism. The constitution and the principles of the regulatory body guide its functioning. To ensure efficient functioning of the regulatory body, two crucial inputs are continuous up-gradation of the skills of its staff and regular flow of all relevant information including the one relating to latest technological developments. A structured approach needs to be developed to achieve these objectives. Besides ensuring that the competent personnel are attracted by the regulator, adequate training facilities and a framework of research and information service need to be developed. Depending upon the administrative setup of the country, the responsibilities of the regulatory authorities differ too. (Pandey 2009)

1.3.1 TRAI and TDSAT - Role and customer friendly measures.

The success of telecom regulation depends on the effectiveness with which healthy competition is introduced in telecom industry and the extent to which maximum cost benefits are passed on to the consumer in terms of low and affordable tariffs. The telecom regulation is also necessary to ensure that telecom operators must maintain certain level of quality of service so that customer is fully satisfied. This section will elaborate on the formation of TRAI, TDSAT (Annexure 1.3). There is slow progress in the enactment of Communication Convergence Bill, 2001 which will take over all functions of the regulator and licensor for not only telecom but broadcasting industry as well. This had become necessary to ensure level playing field among the telecom players for implementation of telecom reforms under NTP-94 AND NTP-99.

The TRAI, set up in 1997, is the apex organisation responsible for ensuring quality services and value for money to the consumers. The interests of the consumers as a group are protected by TRAI. For individual grievances, a consumer can approach a Consumer Forum. The three main areas of concern regarding the quality of services have been billing, fault repair and redressal of other grievances. An appropriate mechanism ensuring fool-proof and time-bound solution to the problems arising in the
above three areas were needed. The TRAI was formed with a view to provide an effective regulatory framework and adequate safeguards to ensure fair competition and protection of consumer interests. (Prashant, 2005)

a. **Common Charter for service providers:** TRAI has also formulated a common charter for adoption by all service providers. This is a voluntary commitment by them and is not mandatory. There are twenty points in this charter and most of them are customer focused. These points of common charter are appended as *(Annexure 1.4-a).* It shows how TRAI has made the consumer a focus while guiding the Telecom operators and other service providers about the necessity of looking into his needs varying from basic to complex ones. (www.trai.gov.in )

b. **TRAI and Consumer Transparency:** The important measures mandated by the Authority (TRAI) to improve consumer transparency by way of giving directions include:
   
   i. All publication/Advertisements of tariffs shall be in a specified format and shall provide certain essential information.

   ii. The websites of the service providers and the tariff brochures available in the retail outlet shall contain complete details of the tariff plans.

   iii. No chargeable value added service shall be provided to a customer without his explicit consent.

   iv. The pulse rate/tariff for premium rate service shall be published in all communications/advertisements.

   v. Service providers shall inform customers in writing, within a week of activation of service, the complete details of his tariff plan. The changes in any item/aspect of tariff in the chosen package shall also be intimated to the customers in writing.
vi. No tariff plan shall be offered, presented, marketed or advertised in a manner that is likely to mislead the subscribers.

vii. All monthly fixed recurring charges which are compulsory for a subscriber under any given plan shall be shown under one head.

This concern for customer is supplemented by TRAI guidelines in Annexure 1.4-b for the awareness of the customer about the responsibilities of Service providers. (www.trai.gov.in)

c. **Benchmarking of QOS Parameters:** In July 2000, a Regulation was issued by TRAI, which defined the quality of service parameters and their benchmarks for Basic and Cellular Mobile services *(Annexure 1.5)* This “Regulation on Quality of Service of Basic and Cellular Mobile Telephone Services, 2000” was issued on 5th July 2000 under the provisions of Section 11 1(b)(v) of TRAI Act, 1997. The benchmarks were defined to be achieved in the short term, medium term and long term corresponding to periods 12, 24 and 48 months for Basic Services and 12, 24 and 36 months for Cellular Mobile Services from the date of issue of Regulation. Thus, even the long-term period expired in July 2003 for cellular services and July 2004 for basic services. TRAI has been carrying out regular reviews of the status of quality of service of the networks of all operators. The performance was found to be very poor for basic service networks, especially the ones that were predominantly wire line networks. In the case of cellular operators, while about 75 percent of operators were meeting most of the parameters, there was still the problem of several other parameters not being met.

d. **Powers of TRAI and TDSAT- Level playing field:** The TRAI has full adjudicatory powers to resolve disputes between service providers. To ensure level playing fields, the TRAI has the powers to issue directions under section 13 to Government (in its role as service provider) and further to adjudicate under section 14 of the Act 1997, all disputes arising between Government (in its role as service provider) and any other service provider. The powers of TRAI are listed as follows:

- TRAI is assigned the arbitration function for resolution of disputes between Government (in its role as licensor) and any licensee.
• The Government will invariably seek TRAI's recommendations on the number and timing of new licences before taking decision on issue of new licenses in future.

• The functions of licensor and policy maker would continue to be discharged by Government in its sovereign capacity. In respect of functions where TRAI has been assigned - a recommendatory role, it would not be statutorily mandatory for Government to seek TRAI's recommendations.

An Appellate Tribunal, known as TDSAT was established by the Central Government in May, 2000 to adjudicate any dispute between a licensor and a licensee; between two or more service providers; between a service provider and a group of consumers; and to hear and disposal of appeals against any direction, decision or order of the TRAI. The tribunal therefore exercises both original and appellate jurisdiction (www.tdsat.nic.in).

1.3.2 Source of Funding and Sharing of Infrastructure

TRAI has formulated the following recommendations for rural masses which may be divided into the following categories:

i) Reduction in Base Transmission System (BTS) cost and creating competitive environment in rural areas by sharing the passive infrastructure like tower, building etc and power supply systems and to provide the incentive from USOF to install BTSs in rural areas.

ii) To provide connectivity of BTSs with the rest of the network in the most optimum manner and also provide support for this connectivity from USOF.

iii) Offering a discount on regulatory costs like annual license fee and spectrum charges linked with the coverage of rural areas.

iv) The development of suitable applications for rural population so as to develop the local entrepreneurship programs by mobile operators and other stakeholders,
increase ARPU and create demand due to deployment of various Value Added Services.

While finalizing these recommendations the other means like higher termination charges for subscribers in rural areas was also examined and due to their practical limitations were not finally recommended. These recommendations are discussed in detail in subsequent paragraphs.

After the discussions with various service providers, TRAI opined that operators would provide the coverage in 5161 towns/cities on their own. The objective of these recommendations is to increase the coverage in all rural areas. To achieve it, the operators would have to install BTSs in rural areas (Sethi, 2006).

a. **TRAI and Infrastructure sharing under USO:** To reduce the cost of BTSs the operators would have to share the passive infrastructure like towers, buildings and power supply etc.

   It recommends that the operator who installs BTSs in rural/remote areas (outside mentioned locations as per Census of 2001) should be given one time support per BTS from USOF, provided the installed infrastructure is shared with at least one other operator. The Authority considered that looking at the size and nature of Indian rural market and the number of operators in different areas, sharing of towers in rural areas among three operators would be the ideal solution. The other two operators who rollout their services in rural/remote areas and share the infrastructure like tower/shelter and power supply with the already existing operator in that area will also be given a support from USOF (Purkaysatha, 2006).

   In its recommendation, the Authority's main consideration is encouraging infrastructure build up for provisioning of access services in rural areas. As the growth is mainly happening in mobile phone services for the purpose of giving subsidy the installation of BTSs are considered. One may argue that service providers who provide voice and/or data services in rural areas using any other technology including Wi-Fi, Cor-DECT, fibre, etc. should get subsidy from USOF just like mobile phone operators (Sethi, 2006).
However, ultimately the Authority recommended that only the network infrastructure expansion approach should be followed for providing the support from USOF. Since the amount of support in this network infrastructure expansion approach will be much less and ultimately the growth of telecom services in rural areas shall pick up therefore, in future the reduction in USO levy from existing level of five percent of AGR may also be considered (Purkaysatha, 2006).

b. **TRAI and COAI:** The Cellular Operators Association of India (COAI), is an apex body of private cellular telecom service providers. The COAI body protects the interests of the private mobile telecom service providers.

COAI highlights the hurdles coming in the day-to-day operations of telecom service providers. There are conflicts on some issues between the COAI and the Government of India. Some of which are like paying very high duties and levies including annual license fees, spectrum charges and access deficit charges. In addition to the above, significant levies are also imposed on the industry on account of sales tax, service tax and import duties on handset and other telecom hardware. As a matter of the fact, a report from TRAI stated that the burden on the sector on account of access deficit charges, spectrum charges and license fees is to the tune of 25 percent. This excludes the burden of sales tax and the effects of other levies like service tax and import duties (Allen & Jessee, 2007).

### 1.3.3 Licensing Regime and Anomalies in the Bidding Process

There were several anomalies in the system. In a case where, one single company quoted highest bids in nine of the 20 circles, while 5 circles received extremely low and only single bids. Since no ceiling on number of circles was specified before the bid evaluation, there was speculation as to whether any single company could pay the license amount in all the circles and got awarded all of them. This became extremely debatable especially as the amounts quoted by it were high by any industry standards ($15 bn over 15 years). Even though it had not been specified in the bid evaluation criteria, The department of Telecom (DoT) introduced a "reasonableness" criterion in evaluating bids. This was based on the difference in bid amounts and profits that the companies could hope to make. There were other problems with the offered bids as some of the C circle
bids were at least as high as those in B circles. In the middle of this debate, the government allowed companies to "choose" three circles, as it felt by awarding all qualifying bids to a single company, it would be replacing the public monopoly by a private monopoly. Many people felt that by allowing companies to choose and not letting them withdraw on their own would have forced the companies to pay the "minimum reserve price" and generated additional funds in the government account. In contrast, there were circles for which there was a single bid and there were 15 circles which were put up for rebidding. (Jain, 1997)

Even after award of bids, interconnect agreements between DoT and service providers which were supposed to be a pre-requisite for provision of services have yet to be satisfactorily sorted out, despite several rounds of meetings between DoT and service providers.

1.3.4 Suggestions by Management Experts for Improvements

The Telecom industry can play a critical role in catalysing policy decisions. The government has taken a short sighted view of the reform process. Industry associations have clamored for specific actions such as reduction in various duties, uniformity in tax structures etc. but missed the woods for the trees. Although specific concessions are designed to make the industry more streamlined and competitive, a very few agencies firmly insisted on having the required legislation, design and implementation of processes before the bidding process started. A strong and well functioning TRAI would have ensured implementation of those conditions such as interconnect agreements, which would have facilitated functioning of service providers. The setting up of such a body as a pre-condition to the private service provision, would have shielded the private operators from political expediency. Even though it may appear that setting up TRAI as a pre-condition for tenders would have delayed the basic service provision, experience has shown that in the absence of a regulatory agency, the entire process of basic service provision has been delayed at every stage. (Jain, 1997)

There have been disputes among Telecom operators providing basic WLL services, landline services and wireless services with full mobility due to the difference in license
fee. Even the roles of TRAI, DoT and Govt of India were in conflict with one another. To resolve this issue concept of Unified Access Licensing was introduced. According to the TRAI recommendations, existing operators had an option to migrate to the Unified Access Service License (UASL), which allowed existing circle level players to offer both mobile and fixed services. Basic guidelines for UAS are elaborated at Annexure 1.6. (www.auspi.in)

When such examples are highlighted, it is common to say, "it may work elsewhere, but in India these solutions do not work as our work culture and problems are unique". While it is true that some of our specific problems may be unique, many countries that have been through the reform process have evolved some techniques and solutions, at least parts of which may be suited to our conditions. The remaining parts could be modified as per the conditions. Surely, there is no point in re-inventing the entire wheel every time.

(Jain, 1997)

1.4 Organisational Structure of Telecom under GOI

The organization of telecom at Govt. level has evolved over the years. It makes an interesting study to see how developments in technology, market expansion and reforms affect the ability of a set up to sustain and reinvent itself. Bifurcation of the Old department of P&T into Department of Posts (DoP) and DoT, formation of telecom commission, carving out DTS from DoT and lastly corporatisation of Department of Telecom Services (DTS) to BSNL is the major transformation grid in India.

1.4.1 Organisation at Ministerial Level

The organisation chart given in Figure 1.1 shows mainly Department of Telecom headed by Honorable Minister of Communications and Information Technology (MOC &IT). Actually Department of Information Technology (DIT) and Wireless Planning and Coordination Wing are also under MOC&IT. The main functions of DoT are described as Policy maker and licensor. Operational wing has been separated by creation of BSNL.
Figure 1.1 Organisation Chart of Department of Telecom

ORGANISATION CHART

Department of Telecommunications

Minister of Communications & Information Technology

Minister of State for Communications & Information Technology

Secretary DOT & Chairman TC

Member (Finance)

Adv. (Eco.)

Member (Production)

Adv. (Prod.)

Member (Technology)

Adv. (Tech.)

Member (Services)

Addl. Secretary (T)

Admn. (USOF)

Addl. Secretary (S)

Addl. Secretary (A)

DDQ (C&A)

DDQ (TEC)

St. DDQ (N)

DDQ (E)

DDQ (R)

DDQ (G)

Director (Architecture)

DDQ (Est.)

St. DDQ (SU)

St. DDQ (N)

Legal Adv.

Adv. (HRD)

Adv. (C)

St. DDQ (Vig.)

Admn. (USOF)

Admn. (Fin.)

LEGEND:

TF: Tariff
FP: Finance
A: Administration
IT: Information
W: Wireless
R: Revenue
E: Economic

S: Services
TC: Telecommunications
C: Consumer
S: Services
D: Data
S: Services
C: Care
E: Economic

F: Finance
O: Operating
T: Tariff
S: Service
W: Wireless
R: Revenue
E: Economic

AA: Administration
W: Wireless
C: Consumer
S: Services
M: Mobile
E: Economic

T: Treasury
E: Engineering
G: Governance
C: Corporate
S: Services
E: Economic

(See: www.dot.gov.in)
1.4.2 Telecom Board and Telecom Commission

Till December 1984, the P & T department managed the postal, telegraph and telephone services of the country. Two separate departments for the Posts and the Telecommunications were created in January 1985. The Telecommunication Board consisted of the Secretary Telecommunications, who was the Chairman and five members namely Member (Finance), Member (Operations), Member (Development), Member (Personnel) and Member (Technology). The Telecom Commission was constituted in 1989. The Commission has the DoT Secretary as its Chairman with Member (Services), Member (Technology) and Member (Finance) as its full time members. The Secretary (Finance), Secretary (DoE), Secretary (Industries) and Secretary (Planning Commission) are part time members of the Commission. The Department reorganized the telecommunication circles in a phased manner with the Secondary Switching Areas (SSAs) as basic units in 1986. Bombay and Delhi Telephones were separated to create the new entity called Mahanagar Telephone Nigam Ltd. (MTNL). On 1st October 2000, the Department created Bharat Sanchar Nigam Limited (BSNL), a new entity to operate services in different parts of the country as a Public Sector Unit (PSU). (www.nic.gov.in )

The composition of the Telecommunications Commission is given as under:

<table>
<thead>
<tr>
<th>Full Time members</th>
<th>Part Time members</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chairman (Secretary DoT)</td>
<td>Secretary (Department of Information Technology)</td>
</tr>
<tr>
<td>Member (Finance)</td>
<td>Secretary (Finance)</td>
</tr>
<tr>
<td>Member (Production)</td>
<td>Secretary (Planning Commission)</td>
</tr>
<tr>
<td>Member (Services)</td>
<td>Secretary (Industrial Policy &amp; Promotion).</td>
</tr>
<tr>
<td>Member (Technology)</td>
<td></td>
</tr>
</tbody>
</table>

(Source: www.dot.gov.in )
The Telecom Commission and the DoT are responsible for policy formulation, licensing, wireless spectrum management, administrative monitoring of telecom service providers, research and development and standardization/validation of equipment etc. The multi-pronged strategies followed by the Telecom Commission have not only transformed the very structure of this sector but have motivated all the partners to contribute in accelerating the growth of the sector. (www.dot.gov.in)

1.4.3 Organisation at BSNL Head Quarters

After its formation on October 2000, BSNL became a Public sector undertaking with 100% Govt. ownership. Its management came under Board of Directors with Chairman cum Managing Director (CMD) as its head. The Organisational set up at BSNL Headquarters at New Delhi is shown in Figure 1.2.
Figure 1.2 Organisation Structure of BSNL

(Source: www.bsnl.co.in)
All Chief General Managers (CGMs) report to Chairman and Managing Director (CMD) directly. Apart from CGMs in charge of telecom circles other CGMs heading transmission projects and maintenance circles are also shown. Sub organizations of Technical Development wing, Quality control, telecom stores, telecom factories etc also find their place in the chart. This organization chart has evolved over the years and some links of reporting have changed as also the designations. Marketing and restructuring positions have been inserted suitably.

1.4.4 Organisation at Circle Level-Case of Punjab

Telecom Circles set up in BSNL are headed by CGM Telecom (CGMT) in each state except northeast where small states have been suitably combined and controlled by one CGMT rank officers. Prior to its formation, Punjab Circle was part of North West Circle (NW Circle) consisting of three states namely Punjab, Haryana and Himachal Pradesh. Punjab Telecom Circle was formed in January 1987. It covers the entire state of Punjab, Union Territory of Chandigarh and Panchkula town of Haryana having an area of about 50,362 Sq kms and serving a population of 2.5 Crores (Approx.). The Circle is committed to provide latest in telecommunications technology and the best of the services to its customers. The Chief General Manager heads Punjab Telecom Circle with head quarters at Chandigarh.

(Source: www.punjab.bsnl.co.in)

Figure 1.3 Punjab Telecom Circle Organization at Chandigarh
The Punjab circle is divided into eleven (11) Secondary Switching Areas (SSAs) (Figure 1.3). Ten out of eleven SSAs are headed by General Managers while Principal General Manager assisted by one General Manager heads Chandigarh SSA. Annexure 1.7 show the main management functions of officers under CGMT Punjab.

“State-owned telecommunications major BSNL has been making steady progress in providing quality and affordable communications services to the masses. Even in the face of stiff competition, this public sector entity has become the seventh largest telecommunications services provider in the world, providing a range of services in mobile, wireless, fixed line, broadband, MPLS VPN and leased line segments.” CMD says. (www.dot.gov.in)

The telecom services and their brand were previously described in a different way (Annexure1.8) but later on the brand name was changed for all services. The helpdesk numbers and new brand names has been mentioned in the new format for convenience of customers (Annexure 1.9). This information is very useful for customers. The website is also updated from time to time. (www.punjab.bsnl.co.in)

1.4.5 BSNL Services in Punjab

State-owned telecommunications major Bharat Sanchar Nigam Limited (BSNL) has been making steady progress in providing quality and affordable communications services to the masses. Even in the face of stiff competition, this public sector entity has become the seventh largest telecommunications services provider in the world, providing a range of services in mobile, wireless, fixed line, broadband, MPLS VPN and leased line segments. (Annexure 1.10).

Further, the Website of Punjab telecom circle gives a very vivid explanation of telecom services in Punjab. It explains various customer friendly measures taken by BSNL to expand its market and enhance market share in the highly competitive telecom sector. The scenario in the country is not very different from Punjab except that few circles such as North-East and J&K states where Private operators were late to roll out their services.
The spread of distribution network, customer service centres, value added services, internet, MPLS, Virtual Private Networks (VPN), Web based services is presented for the awareness and empowerment of customers. (www.bsnl.co.in)

A gist of Centrex services and phone plus services is available at Annexure 1.11

### 1.5 Public and Private Players in Telecom Sector

The data sources for this historical detail about the Telecom Service Providers (TSPs) are secondary and mostly obtained from the respective websites of various telecom companies.

**Hutch:** Hutchison established its presence in India in 1994, through a joint venture with Max India Limited. In 1995, Hutchison Max Telecom became the first operator in India to launch its cellular service with presence in all the major regions - Orange in Mumbai and Hutch in Gujarat, Kolkata, Andhra Pradesh, Karnataka, Delhi and Chennai. It was also the country's largest roaming operator, with a more extensive network in India and around the world than any other operator. It was part of the Hong Kong based multinational conglomerate Hutchison Whampoa Limited, a Fortune 500 company, and one of the largest companies listed on the Hong Kong Stock Exchange. Its operations span 36 countries across the Asia Pacific region, Europe and the America. (www.hutch.co.in)

**Touchtel:** Touchtel brought a whole new experience in telecommunications. A new world of telephone service and solutions and a world of innovations in the fields of technology, service and customer care. Touchtel had a world-class network of Fixed Line Services and Data & Broadband Services, catering to the unique needs of customers starting from corporates with high-end solutions to home users with value-added fixed line services. (www.touchtelindia.com)

**Airtel Bharti:** The 1st company to launch private telephone service in India in 1998, Touchtel came from Bharti Enterprises, which is India's largest private integrated telecom company. Bharti, with its expertise in the field of telecommunication, had brought next generation technology to the telecom spectrum. Bharti provided a range of telecom services and solutions from customer premise equipment to customised data solutions, with an entire range spanning the whole spectrum of telephony. AirTel was a part of Bharti Cellular Ltd. a consortium of giants in the telecommunication business. AirTel
launched its services in Delhi on November 14, 1995 and had over ten lakh customers in Delhi region itself.

AirTel had redefined the business through marketing innovations, continuous technological upgradation of the network, introduction of new generation value added services and the highest standard of customer care. Its business approach is contained in its mission and vision statement. (www.airtelworld.com)

**Idea Cellular:** Idea Cellular’s antecedents date back to 1995, when the Aditya Birla Group and AT&T (through Birla AT&T- Maharashtra, Gujarat) and the Tata Group (through Tata Cellular-Andhra Pradesh) came together to set up cellular networks. In 2000, the historic path-breaking merger and the subsequent acquisition of RPG Cellular - (Madhya Pradesh circle) helped to take their aims even further and led to the formation of Birla Tata AT&T Limited (BTATA). Since then, there has been no looking back for Birla Tata AT&T (Idea Cellular). In its very first financial year, Idea Cellular recorded the fastest growth among all cellular operators at a 135% increase in subscriber base. The company BTAL (now Idea Cellular) also ranked No. 1 in customer satisfaction among all operators (as per the NFO MBL survey), a testimony to the quality of the company's services and subscribers. (www.ideacellular.com)

**Tata Teleservices:** Tata Teleservices was established as part of the Rs.54,000/- crore (US$11.2 billion) Tata Group, that had over 90 companies, over 2,10,000 employees and more than 2.16 million shareholders. With an investment of over Rs.9,000 crore (US$ 2 billion) in Telecom, the Group had a formidable presence across the telecom value chain. The Tata Group planned an additional investment of around Rs.9,000/- crore (US$ 2 billion) in this sector in the first two years of its inception. Tata Teleservices spearheaded the Group's presence in the telecom sector. Incorporated in 1996 and was the first to launch Mobile services in India in the Andhra Pradesh circle. The company offered services under the brand name 'Tata Indicom' in eight key Indian circles of Andhra Pradesh, Delhi, Gujarat, Karnataka, Maharashtra, Mumbai, Tamil Nadu and Chennai comprising 70% of the telecom revenue potential of the country. (www.tataindicom.com)

**BSNL:** Incorporated on October-2000, BSNL started as the Number 1 telecommunications company and the largest Public Sector Undertaking of India with
authorized share capital of $3600 million and networth of $13.85 billion. It had a network of over 45 million lines covering 5000 towns with over 35 million telephone connections.

The vision, mission, objectives of BSNL are reproduced in Table 1.2 below and its strategy is self explanatory from the commitment and aspirations mentioned therein. It is obvious from the reading of the Table 1.2 that BSNL is customer focused and has plans to expand its customer base to maintain its lead in the telecom sector. (www.bsnl.co.in)

Table 1.2: Vision, Mission and Objectives of BSNL

<table>
<thead>
<tr>
<th>VISION</th>
<th>MISSION</th>
<th>OBJECTIVES</th>
</tr>
</thead>
</table>
| • to become the largest telecom service provider in Asia. | • to provide world class state-of-the-art technology telecom services to its customers on demand at competitive prices.  
• to provide world class telecom infrastructure in its area of operation and to contribute to the growth of the country's economy. | • To be a leader Telecom Services Provider (TSP).  
• To provide quality and reliable fixed telecom service to our customer and thereby increase customer's confidence.  
• To provide mobile telephone service of high quality and become no. 1 GSM operator in its area of operation.  
• To provide point of interconnection to other service provider as per their requirement promptly.  
• To facilitate R & D activity in the country.  
• Contribute towards:  
  • National Plan Target of 500 million subscriber base for the country by December 2010.  
  • Broadband customers base of 20 million in India by 2010 as per Broadband Policy 2004.  
  • Providing telephone connection in villages as per government proposition.  
  • Implementation of triple play as a regular commercial proposition. |

(Source: www.bsnl.co.in)
Reliance India mobile: Reliance India is the first of Infocomm's initiatives was launched on December 28, 2002, the 70th birthday of the Reliance group founder, Shri. Dhirubhai H. Ambani. Reliance Infocomm planned to extend its efforts beyond the traditional value chain to develop and deploy telecom solutions for India's farmers, businesses, hospitals, government and public sector organisations.

This marked the beginning of Reliance's dream of ushering in a digital revolution in India by becoming a major catalyst in improving quality of life and changing the face of India. It aimed to achieve this by putting the power of information and communication in the hands of the people of India at affordable costs. (www.relianceinfo.com)

Reliance vision for this new infrastructure is simple: Enlighten each home and empower each organization. Just like electricity lighted each home; we want to enlighten it. Electricity powered our organizations, we want to empower Information Technology (IT). To enable India to leap frog into the Net Age. To get India its right place in History. Shri Dhirubhai’s vision of “Change India”, Reliance has been planning out a new network infrastructure. This will pipe in IT, Entertainment and Communication Services into each home in the country. Already, Reliance has done the groundwork with fibre highways connecting the major cities, and fibre grids within the cities. (NASSCOM, 2002)

There has been lot of changes in the structure and organization of these companies by way of change of name, brand, additional service licenses, mergers and acquisitions etc. This detail is beyond the scope of this study and can be part of another separate research work. However, while analyzing the comparison of their market shares a glimpse of telecom data (January, 2009) is given in the following tables Table 1.3 to Table 1.5.
Table 1.3 Technology-wise Customers: Total and Operator-wise

<table>
<thead>
<tr>
<th>Indian Telecom Statistics</th>
<th>Figures (millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total telephone subscriber base</td>
<td>400.05</td>
</tr>
<tr>
<td>Over all Tele-density</td>
<td>34.50</td>
</tr>
<tr>
<td>Fixed-line user base</td>
<td>37.75</td>
</tr>
<tr>
<td>Wireless user base (GSM+CDMA+WLL(F))</td>
<td>362.3</td>
</tr>
<tr>
<td>GSM Subscribers</td>
<td>267.54</td>
</tr>
<tr>
<td>CDMA Subscribers</td>
<td>94.7</td>
</tr>
<tr>
<td>Monthly new additions (Wireline + Wireless)</td>
<td>15.26</td>
</tr>
<tr>
<td>Monthly new additions (Wireless)</td>
<td>15.41</td>
</tr>
<tr>
<td>Broadband subscribers</td>
<td>5.65</td>
</tr>
</tbody>
</table>

(Source: www.trai.gov.in)

Table 1.4 Operator-wise Distribution of GSM Customers

<table>
<thead>
<tr>
<th>Service Provider Name</th>
<th>Subscriber (Mn)</th>
<th>Market Share (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bharti Airtel</td>
<td>88.38</td>
<td>33.04</td>
</tr>
<tr>
<td>Vodafone Essar</td>
<td>63.34</td>
<td>23.68</td>
</tr>
<tr>
<td>BSNL</td>
<td>42.67</td>
<td>15.95</td>
</tr>
<tr>
<td>IDEA</td>
<td>40.02</td>
<td>14.96</td>
</tr>
<tr>
<td>Aircel</td>
<td>16.76</td>
<td>6.27</td>
</tr>
<tr>
<td>Reliance Telecom</td>
<td>10.35</td>
<td>3.87</td>
</tr>
<tr>
<td>MTNL</td>
<td>4.00</td>
<td>1.5</td>
</tr>
<tr>
<td>BPL</td>
<td>2.00</td>
<td>0.75</td>
</tr>
<tr>
<td>ALL India</td>
<td>267.54</td>
<td>100</td>
</tr>
</tbody>
</table>

(Source: www.coai.in)
Table 1.5 Operator-wise Distribution of CDMA (WLL) Customers.

<table>
<thead>
<tr>
<th>Service Provider Name</th>
<th>Subscriber (Mn)</th>
<th>Market Share (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reliance Com</td>
<td>55.95</td>
<td>59.03</td>
</tr>
<tr>
<td>Tata Teleservices</td>
<td>32.79</td>
<td>34.6</td>
</tr>
<tr>
<td>BSNL</td>
<td>4.91</td>
<td>5.19</td>
</tr>
<tr>
<td>Sistema Shyam</td>
<td>0.43</td>
<td>0.46</td>
</tr>
<tr>
<td>HFCL Infotel</td>
<td>0.39</td>
<td>0.41</td>
</tr>
<tr>
<td>MTNL</td>
<td>0.3</td>
<td>0.31</td>
</tr>
<tr>
<td>ALL India</td>
<td>94.77</td>
<td>100</td>
</tr>
</tbody>
</table>

(Source: www.auspi.in)

1.6 Telecom Status of BSNL

The telecom status in the country has been brought out clearly in the annual report of DoT for the year 2007-2008. An abstract of the report is reproduced in the appendices at the end. This includes the following:

a. Executive summary. Annexure 1.12
b. Plans and commitments. Annexure 1.13
c. Financial health of BSNL. Annexure 1.14
d. All India data on telephone connections. Table 1.6 to Table 1.8

The observations made from the above mentioned Appendices are briefed as under:

i) From the executive summary given in Annexure 1.12, it can be brought out that Indian telecom scene revolves mainly around following salient features:
   • Customer-centric
   • Infrastructure development
   • Competitive environment
• Level playing field for all telcos
• Research and development
• Spectrum management

The target of 250 millions by 2007 was achieved in advance due to contribution by private and public sector companies. As high as 8 million lines per month were being provided in India to achieve 500 million lines target by 2010 which includes all type of services i.e. landline, mobile and WLL etc.

ii) **Annexure 1.13** and Annexure 1.14 explain in brief the business conducted by BSNL. The company is a Public Sector Undertaking (PSU) and has all India presence. It provides all type of telecom services e.g. Landline, Mobile, Broadband, Internet and leased circuits etc. The data given up to December, 2007 shows the size and magnitude of its network and services.

iii) Table 1.6 gives the state/circle wise details of major telecom services such as wire-line, WLL and Mobile. Delhi and Mumbai networks are excluded as MTNL is the service provider in these metros. Out of total 6.85 crore telephones, break up of Wireline, WLL and Mobile is 3.17 cr, 40.8 lacs and 3.27 cr respectively. There is a scope to exploit WLL segment of the telecom market as cost per wireline is many times more than cost per WLL line apart from its fault free operation.
Table 1.6 Telecom Circle-Wise Telephone Connections

<table>
<thead>
<tr>
<th>SL NO</th>
<th>NAME OF THE CIRCLE</th>
<th>WIRELINE</th>
<th>WLL</th>
<th>CELLULAR</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Andaman &amp; Nicobar</td>
<td>25942</td>
<td>2947</td>
<td>48259</td>
<td>77148</td>
</tr>
<tr>
<td>2</td>
<td>Andhra Pradesh</td>
<td>2520190</td>
<td>198820</td>
<td>2173710</td>
<td>4892720</td>
</tr>
<tr>
<td>3</td>
<td>Assam</td>
<td>436132</td>
<td>92658</td>
<td>584679</td>
<td>1113469</td>
</tr>
<tr>
<td>4</td>
<td>Bihar</td>
<td>963855</td>
<td>156184</td>
<td>910036</td>
<td>2030075</td>
</tr>
<tr>
<td>5</td>
<td>Chhattisgarh</td>
<td>256077</td>
<td>111160</td>
<td>484341</td>
<td>851578</td>
</tr>
<tr>
<td>6</td>
<td>Gujarat</td>
<td>2158394</td>
<td>173976</td>
<td>1766740</td>
<td>4099110</td>
</tr>
<tr>
<td>7</td>
<td>Haryana</td>
<td>914285</td>
<td>104874</td>
<td>1210742</td>
<td>2229901</td>
</tr>
<tr>
<td>8</td>
<td>Himachal Pradesh</td>
<td>425025</td>
<td>74856</td>
<td>511574</td>
<td>1011455</td>
</tr>
<tr>
<td>9</td>
<td>Jammu &amp; Kashmir</td>
<td>266778</td>
<td>96028</td>
<td>794958</td>
<td>1157764</td>
</tr>
<tr>
<td>10</td>
<td>Jharkhand</td>
<td>444572</td>
<td>78120</td>
<td>504731</td>
<td>1027423</td>
</tr>
<tr>
<td>11</td>
<td>Karnataka</td>
<td>2327243</td>
<td>249346</td>
<td>1717436</td>
<td>4294025</td>
</tr>
<tr>
<td>12</td>
<td>Kerala</td>
<td>3589376</td>
<td>465345</td>
<td>2108001</td>
<td>6162722</td>
</tr>
<tr>
<td>13</td>
<td>Madhya Pradesh</td>
<td>1200931</td>
<td>356412</td>
<td>1097826</td>
<td>2655169</td>
</tr>
<tr>
<td>14</td>
<td>Maharashtra</td>
<td>3505881</td>
<td>361960</td>
<td>2735842</td>
<td>6603683</td>
</tr>
<tr>
<td>15</td>
<td>North East - 1</td>
<td>207484</td>
<td>38230</td>
<td>221110</td>
<td>466824</td>
</tr>
<tr>
<td>16</td>
<td>North East - 2</td>
<td>130399</td>
<td>29930</td>
<td>312676</td>
<td>473005</td>
</tr>
<tr>
<td>17</td>
<td>Orissa</td>
<td>764133</td>
<td>146658</td>
<td>931003</td>
<td>1841794</td>
</tr>
<tr>
<td>18</td>
<td>Punjab</td>
<td>1466500</td>
<td>94441</td>
<td>1631910</td>
<td>3192851</td>
</tr>
<tr>
<td>19</td>
<td>Rajasthan</td>
<td>1570736</td>
<td>250763</td>
<td>2201890</td>
<td>4023389</td>
</tr>
<tr>
<td>20</td>
<td>Tamilnadu</td>
<td>2376410</td>
<td>389300</td>
<td>2182974</td>
<td>4946864</td>
</tr>
<tr>
<td>21</td>
<td>Uttaranchal</td>
<td>328995</td>
<td>58356</td>
<td>599725</td>
<td>987076</td>
</tr>
<tr>
<td>22</td>
<td>Uttar Pradesh East</td>
<td>1449864</td>
<td>259816</td>
<td>4024713</td>
<td>5734393</td>
</tr>
<tr>
<td>23</td>
<td>Uttar Pradesh West</td>
<td>937637</td>
<td>95001</td>
<td>1148525</td>
<td>2181163</td>
</tr>
<tr>
<td>24</td>
<td>West Bengal</td>
<td>1138335</td>
<td>130103</td>
<td>1097178</td>
<td>2361116</td>
</tr>
<tr>
<td>25</td>
<td>Kolkata</td>
<td>1323048</td>
<td>31609</td>
<td>841578</td>
<td>2196235</td>
</tr>
<tr>
<td>26</td>
<td>Chennai</td>
<td>987497</td>
<td>39985</td>
<td>87064</td>
<td>1897546</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td><strong>31711219</strong></td>
<td><strong>4086878</strong></td>
<td><strong>32712221</strong></td>
<td><strong>68510318</strong></td>
</tr>
</tbody>
</table>

(Source: www.dot.gov.in )
Table 1.7 shows the urban–rural break up of telephone connections in different circles. From the data it can be derived that Himachal Pradesh has 74.4 percent rural telephones and is the highest. Similarly J&K has 13.75 percent phones in rural areas which are lowest. Kolkata and Chennai are metros so they are not compared for rural telephone figures. The reasons for so much variation can be many but mainly it shows the extent of prosperity, level of literacy and awareness among the rural population.

### Table 1.7 Proportion Of Rural Telephones In Each Circle

<table>
<thead>
<tr>
<th>SL NO</th>
<th>NAME OF THE CIRCLE</th>
<th>URBAN</th>
<th>RURAL</th>
<th>TOTAL</th>
<th>%AGE OF RURAL TELEPHONES</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Andaman &amp; Nicobar</td>
<td>38677</td>
<td>38471</td>
<td>77148</td>
<td>49.87%</td>
</tr>
<tr>
<td>2</td>
<td>Andhra Pradesh</td>
<td>2989505</td>
<td>1903215</td>
<td>4892720</td>
<td>38.90%</td>
</tr>
<tr>
<td>3</td>
<td>Assam</td>
<td>787872</td>
<td>325807</td>
<td>1113689</td>
<td>29.24%</td>
</tr>
<tr>
<td>4</td>
<td>Bihar</td>
<td>1265304</td>
<td>764771</td>
<td>2030075</td>
<td>37.67%</td>
</tr>
<tr>
<td>5</td>
<td>Chhattisgarh</td>
<td>635301</td>
<td>216277</td>
<td>851578</td>
<td>25.40%</td>
</tr>
<tr>
<td>6</td>
<td>Gujarat</td>
<td>2688879</td>
<td>1413231</td>
<td>4092110</td>
<td>34.48%</td>
</tr>
<tr>
<td>7</td>
<td>Haryana</td>
<td>1331738</td>
<td>898163</td>
<td>2229901</td>
<td>40.28%</td>
</tr>
<tr>
<td>8</td>
<td>Himachal Pradesh</td>
<td>258877</td>
<td>752880</td>
<td>1011155</td>
<td>74.11%</td>
</tr>
<tr>
<td>9</td>
<td>Jammu &amp; Kashmir</td>
<td>998589</td>
<td>159175</td>
<td>1157764</td>
<td>13.75%</td>
</tr>
<tr>
<td>10</td>
<td>Jharkhand</td>
<td>770901</td>
<td>256522</td>
<td>1027423</td>
<td>24.97%</td>
</tr>
<tr>
<td>11</td>
<td>Karnataka</td>
<td>3164184</td>
<td>1129841</td>
<td>4294025</td>
<td>26.31%</td>
</tr>
<tr>
<td>12</td>
<td>Kerala</td>
<td>2446957</td>
<td>3716125</td>
<td>6162722</td>
<td>60.30%</td>
</tr>
<tr>
<td>13</td>
<td>Madhya Pradesh</td>
<td>1967965</td>
<td>687204</td>
<td>2655169</td>
<td>25.88%</td>
</tr>
<tr>
<td>14</td>
<td>Maharashtra</td>
<td>4130213</td>
<td>2473470</td>
<td>6603683</td>
<td>37.46%</td>
</tr>
<tr>
<td>15</td>
<td>North East - 1</td>
<td>307714</td>
<td>159110</td>
<td>472824</td>
<td>34.08%</td>
</tr>
<tr>
<td>16</td>
<td>North East - 2</td>
<td>345787</td>
<td>127218</td>
<td>473005</td>
<td>26.90%</td>
</tr>
<tr>
<td>17</td>
<td>Orissa</td>
<td>996223</td>
<td>845571</td>
<td>1841794</td>
<td>45.91%</td>
</tr>
<tr>
<td>18</td>
<td>Punjab</td>
<td>1814712</td>
<td>1378139</td>
<td>3192851</td>
<td>43.16%</td>
</tr>
<tr>
<td>19</td>
<td>Rajasthan</td>
<td>2579715</td>
<td>1443674</td>
<td>4023389</td>
<td>35.88%</td>
</tr>
<tr>
<td>20</td>
<td>Tamilnadu</td>
<td>3464452</td>
<td>1484232</td>
<td>4948684</td>
<td>29.99%</td>
</tr>
<tr>
<td>21</td>
<td>Uttaranchal</td>
<td>641723</td>
<td>345353</td>
<td>987076</td>
<td>34.99%</td>
</tr>
<tr>
<td>22</td>
<td>Uttar Pradesh East</td>
<td>3886599</td>
<td>1847794</td>
<td>5734393</td>
<td>32.22%</td>
</tr>
<tr>
<td>23</td>
<td>Uttar Pradesh West</td>
<td>1091993</td>
<td>489170</td>
<td>2181163</td>
<td>22.43%</td>
</tr>
<tr>
<td>24</td>
<td>West Bengal</td>
<td>1205285</td>
<td>1155831</td>
<td>2361116</td>
<td>48.95%</td>
</tr>
<tr>
<td>25</td>
<td>Kolkata</td>
<td>2196235</td>
<td>0</td>
<td>2196235</td>
<td>0.00%</td>
</tr>
<tr>
<td>26</td>
<td>Chennai</td>
<td>1777676</td>
<td>119870</td>
<td>1897546</td>
<td>6.32%</td>
</tr>
</tbody>
</table>

(Source: www.dot.gov.in)
v) Table 1.8 indicates the urban and rural divide by giving the proportion of urban phones as a percentage of rural telephones. Overall figure including Kolkata and Chennai is 6.20 percent. And highest figure is in Kerala circle i.e. 18.22% next to Chennai (23.53%). Bihar is lowest with only 2.17% urban to rural phones. This analysis if extended further can be useful for telcos to exploit the market potential in these circles. It will also help to decide the type of network and technology which can be most viable in different circles.

Table 1.8 Urban To Rural Telephone Connections (%)

<table>
<thead>
<tr>
<th>Sl. No</th>
<th>Name of the Circle</th>
<th>Wireline</th>
<th>WLL</th>
<th>Cellular</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Andaman &amp; Nicobar</td>
<td>5.81%</td>
<td>0.66%</td>
<td>10.81%</td>
<td>17.28%</td>
</tr>
<tr>
<td>2</td>
<td>Andhra Pradesh</td>
<td>3.06%</td>
<td>0.24%</td>
<td>2.64%</td>
<td>5.95%</td>
</tr>
<tr>
<td>3</td>
<td>Assam</td>
<td>1.48%</td>
<td>0.32%</td>
<td>1.99%</td>
<td>3.79%</td>
</tr>
<tr>
<td>4</td>
<td>Bihar</td>
<td>1.03%</td>
<td>0.17%</td>
<td>0.97%</td>
<td>2.17%</td>
</tr>
<tr>
<td>5</td>
<td>Chhattisgarh</td>
<td>1.10%</td>
<td>0.48%</td>
<td>2.09%</td>
<td>3.67%</td>
</tr>
<tr>
<td>6</td>
<td>Gujarat</td>
<td>3.79%</td>
<td>0.31%</td>
<td>3.10%</td>
<td>7.19%</td>
</tr>
<tr>
<td>7</td>
<td>Haryana</td>
<td>3.79%</td>
<td>0.44%</td>
<td>5.02%</td>
<td>9.25%</td>
</tr>
<tr>
<td>8</td>
<td>Himachal Pradesh</td>
<td>6.46%</td>
<td>1.14%</td>
<td>7.77%</td>
<td>15.36%</td>
</tr>
<tr>
<td>9</td>
<td>Jammu &amp; Kashmir</td>
<td>2.38%</td>
<td>0.86%</td>
<td>7.08%</td>
<td>10.31%</td>
</tr>
<tr>
<td>10</td>
<td>Jharkhand</td>
<td>1.48%</td>
<td>0.26%</td>
<td>1.68%</td>
<td>3.41%</td>
</tr>
<tr>
<td>11</td>
<td>Karnataka</td>
<td>4.05%</td>
<td>0.43%</td>
<td>2.99%</td>
<td>7.48%</td>
</tr>
<tr>
<td>12</td>
<td>Kerala</td>
<td>10.61%</td>
<td>1.38%</td>
<td>6.23%</td>
<td>18.22%</td>
</tr>
<tr>
<td>13</td>
<td>Madhya Pradesh</td>
<td>1.75%</td>
<td>0.52%</td>
<td>1.60%</td>
<td>3.87%</td>
</tr>
<tr>
<td>14</td>
<td>Maharashtra</td>
<td>3.90%</td>
<td>0.40%</td>
<td>3.04%</td>
<td>7.35%</td>
</tr>
<tr>
<td>15</td>
<td>North East - 1</td>
<td>2.97%</td>
<td>0.55%</td>
<td>3.17%</td>
<td>6.69%</td>
</tr>
<tr>
<td>16</td>
<td>North East - 2</td>
<td>2.28%</td>
<td>0.52%</td>
<td>5.46%</td>
<td>8.27%</td>
</tr>
<tr>
<td>17</td>
<td>Orissa</td>
<td>1.93%</td>
<td>0.37%</td>
<td>2.35%</td>
<td>4.65%</td>
</tr>
<tr>
<td>18</td>
<td>Punjab</td>
<td>5.26%</td>
<td>0.34%</td>
<td>5.85%</td>
<td>11.45%</td>
</tr>
<tr>
<td>19</td>
<td>Rajasthan</td>
<td>2.44%</td>
<td>0.39%</td>
<td>3.42%</td>
<td>6.25%</td>
</tr>
<tr>
<td>20</td>
<td>Tamilnadu</td>
<td>4.02%</td>
<td>0.66%</td>
<td>3.69%</td>
<td>8.37%</td>
</tr>
<tr>
<td>21</td>
<td>Uttaranchal</td>
<td>3.47%</td>
<td>0.62%</td>
<td>6.32%</td>
<td>10.40%</td>
</tr>
<tr>
<td>22</td>
<td>Uttar Pradesh East</td>
<td>1.26%</td>
<td>0.19%</td>
<td>2.73%</td>
<td>4.17%</td>
</tr>
<tr>
<td>23</td>
<td>Uttar Pradesh West</td>
<td>1.55%</td>
<td>0.18%</td>
<td>1.50%</td>
<td>3.24%</td>
</tr>
<tr>
<td>24</td>
<td>West Bengal</td>
<td>9.13%</td>
<td>0.22%</td>
<td>5.81%</td>
<td>15.16%</td>
</tr>
<tr>
<td>25</td>
<td>Kolkata</td>
<td>12.25%</td>
<td>0.50%</td>
<td>10.79%</td>
<td>23.53%</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>2.87%</td>
<td>0.37%</td>
<td>2.96%</td>
<td>6.20%</td>
</tr>
</tbody>
</table>

(Source: www.dot.gov.in)
1.6.1 SWOT ANALYSIS of BSNL (Erstwhile DoT)

Khan Committee (1995) nominated by DOT has analysed the overall working of DOT. The observations and conclusions drawn by the Committee are vital for the BSNL Management to ensure the survival of the company in the competitive environment of Telecom Industry. The brief is as follows:

Based on the interactions with chambers of commerce, trade and industry union representatives and various other groups and individuals, the committee carried out a SWOT analysis (Strength, Weakness, Opportunity and Threats to DOT and subsequently the corporate entity e.g. BSNL) in order to have realistic view of the present status and work out a strategy to prepare the DOT to face the emerging scenario.

a. Strengths

- It is well knit countrywide organization working in every nook and corner of the country. With a history of more than 100 years old, the organization has strong traditions and beliefs and has served the country in many crisis situations like wars. In the past and also on special occasions like international events, elections etc.
- The organization possesses unrivalled technically skilled staff for installation and operation of highly sophisticated equipment of latest state–of–art technology.
- It has a well spread and large telecom. network which shall provide a sharp operating edge to DOT over its competitors. The growth of the network has been commendable.
- It has a reservoir of skilled manpower
- Despite large strength of Staff, there is high degree of rapport between management and the unions.

b. Weaknesses

- There is a lack of customer consciousness. Customer orientation is low. Particularly at those levels which come in direct contact with the customer.
Analytical Study of Customer Management Strategy of BSNL in Punjab

- Since the department has enjoyed monopoly by remaining in Government, it is highly resistant to any charge.
- Many of the systems and procedures have been built to ensure safety and propriety and more often initiative and innovation are distrusted.
- Under normal functioning there is a lack of teamwork.
- Though the management information system has been in practice for more than two decades, there is a strong reason to believe that the figures are not based on facts. Therefore, the information elicited does not enable the management to take effectively even.
- It also lacks healthy interpersonal relationship.
- DOT fails to deliver promised services within the promised time frame and therefore lacks credibility.
- The human resource management and development hardly gets a deal that it deserves and it lacks the proper succession planning.
- The management of cash flow is lacking
- The quality consciousness is lacking. There is typical cavalier attitude in the work culture.
- Excessive zeal in reducing the staff telephone ratio is resulting in the increase in the average age of the work force and recruitment, even in essential technical cadres has been stopped. This is going to affect the competitiveness of the Department.
- The job definition and job responsibility in each layer is so much eroded that hardly anyone can be held accountable in case of functional lapses.

c. Opportunities
- With the prospect of the private sector entry in the Telecom. Sector, the Department of telecommunications is poised for higher potential for growth, particularly in strengthening and spreading the network.
- The DOT, with a network spread and its reliability has a strong potential for entering into vale added services and sustain the growth of data communication.
• The earning and the surplus of the DOT can be ploughed back for finance investment in sectors others than telecom, thus having an opportunity of higher returns.

• Maximise the revenue through proper expansion and management of links.

d. Threats

• With the entry of private sector, the immediate threat is of migration of creamy layer of our customers including STD/ISD franchisees.

• There is likely to be migration of trained and skilled manpower.

• Because of the above migration, DOT (i.e. BSNL) may become sick.

1.7 The Business Philosophy and Strategy of BSNL

On various events and programs during the period 2000-2010 respective CMDs BSNL have deliberated on most of the important aspects of telecom industry. These have been searched, identified and compiled to delineate the policy, plans and strategy of BSNL in future. This is being revealed here for academic and literary interest and has been quite useful to evolve a unified road map for BSNL revival which is the main objective of this research study.

1.7.1 CMD on BSNL Plans in 2002-03

During 2001-2002, BSNL has provided approximately 53.2 lakhs DELs including 1.96 lakhs WLL lines mainly in rural areas, laid 99,620 route km Optical Fibre, provided 70,755 VPTs. Total amount invested during 2001-02 was approximately Rs. 15,000 crore. The CMD BSNL set new objectives for BSNL for the year 2002-03. For this year BSNL targeted to provide approximately 64 lakh DELs including WLL & Cellular Services, 75,000 route km Optical Fibre and an increase in revenue per DEL. Approximate budget for 2002-2003 has been kept at Rs. 14,000 crore. In a conference in the beginning of the year CMD emphasized on following important issues:

• BSNL is to meet aspiration of its customers and also to generate additional demand specifically in Urban Areas.
• Customer satisfaction will be the main motto of our service in every area.
• Rollout of Cellular Mobile across the country and provisioning of approximately 1.5 million additional WLL (Wireless in local loop) connections to meet rural demand.
• Provisioning of remaining Village Panchayat Telephones (VPTs) as per USO obligations by December 2002.
• More emphasis on increasing revenue.
• With increasing competition everywhere, a special emphasis on increasing role of marketing in BSNL.
• Popularization of Value Added Services (VAS).
• Setting up of Business Development Group at Corporate & field level to understand and design special packages as per needs of our corporate clients.
• Further moving towards achieving a target of teledensity of 7.0 by 2005. It was informed that by March 2002, a teledensity of approx. 4.5 has already been achieved.
• 100% exchanges on reliable media by 2003.

BSNL CMD emphasized that while meeting all obligatory regulations of TRAI & compliance to all decisions of TDSAT, BSNL has to excel in all fields to achieve greater customer happiness together with increase in our customer base. (www.bsnl.co.in) The resolve by CMD BSNL in his address clearly brings about the commitment to customer centric approach within the new regime of competition and regulatory framework. BSNL has to gear up for market orientation which was missing in the past. This also seeks to answer some of the objectives of the present study.

1.7.2 CMD on BSNL performance in 2003-04

“1st October is a significant day for Bharat Sanchar Nigam Limited as it was formed on this day in the year 2000. On this eventful day, BSNL assures its valuable customers that it will strive hard to provide qualitative and reliable world class telecom services in the days to come. The year 2003-04 had been very eventful as BSNL made steady progress in all areas of its operation, including financial performance. It has 44 million telephone users, which includes around 7.5 million cellular customers. There are ambitious plan to
add 20 million Cellular connections across the country during the next One and half year. BSNL has more than 14 lakh Internet Customers who access Internet through various modes viz. Dial-up, Leased Line, DIAS and Account less Internet. BSNL has pioneered in introducing Broadband services in the country. BSNL is actively engaged in large scale expansion of Broadband service during the current year. A world class multi-gigabit, multi-protocol convergent IP Infrastructure is being setup that will provide convergent services like, voice, data and video through the same Backbone and Broadband Access Network. Broadband rollout is planned from December 2004 in 198 cities.” (www.bsnl.co.in)

1.7.3 CMD on BSNL plans for 2006-07

In June, 2006 CMD BSNL had disclosed a major ambitious strategy of BSNL to expand telecom network and introduction of new services in face of competition. The present analytical study on customer management has taken these policy decisions into account as part of observations and major findings from secondary data sources. A gist of this is being reproduced here.

Addressing media persons in Hyderabad on June 19, 2006, BSNL CMD AK Sinha disclosed the initiatives that are planned for the coming year. The corporation expects gross revenue of approximately Rs 39,000 crore for 2005-06, a figure likely to be 9.5 per cent more than that of 2004-05. The net profit is expected to be around Rs 10,000 crore. The corporation has plans to invest approximately Rs 17,000 crore this year, he said. (www.bsnl.co.in)

a. Fixed Line & Broadband

BSNL currently has a total of 5.7 crore connections in the country. of this, 3.4 crore are fixed line connections and 1.8 crore mobile connections, CMD said. The corporation is witnessing a rapid growth on the Broadband front also, with a 60 per cent market share in this segment. It plans to add two million Broadband connections this year and three
million the next year. On “One India plan”, he said that the corporation has plans to reduce the rentals further in order to make the scheme popular. (Arnold, 2007)

b. **Rural Telephony**

Regarding rural telephony, CMD said that by March 2007, BSNL plans to install at least one satellite telephone in each of the 14,000 remote villages in which there is no communications facility so far. Individual satellite phones would be installed in those villages where even wireless signals do not reach properly. (Arnold, 2007)

c. **New Service Offerings**

Telecommunications sector has witnessed a plethora of technologies such as GSM and CDMA, and emerging technologies like 3G, EDGE and Triple Play. To this end, BSNL is making efforts to offer Triple Play services in Chennai and Pune in the next two to three months. Adding new services such as TV on demand and video conferencing are in the pipeline for immediate implementation. These services would be initially made available in big cities. 3G connections are expected to comprise five per cent of the 60 million connections planned for the next three years. (Arnold, 2007)

d. **Wi-Fi/Wimax**

The BSNL CMD said that most of the airports in the country are Wi-Fi enabled and this service would be made available in more places in the near future. WiMAX service would be made available in five cities to begin with and extended to other places subsequently. Where fixed line service is not feasible, Wi-Fi would be provided.

In line with the approach of BSNL it becomes important to comply India Mobile Policy for 3G, WiMax and Mobile Number Portability as per New Guidelines given at Annexure 1.15
e. Customer Care

IT enabled services for customer care- BSNL has realized the importance of WEB based services and therefore has offered IT driven customer services on its portal namely www.bsnl.co.in The downloadable forms for various services are made available on-line for the customer. There is a help-line section in the portal and the customer can also book online for new services after going through interactive menus on the portal hyperlinked to relevant service modules. Annexure 1.16 and Annexure 1.17 give a brief account of Customer friendly measures by BSNL. It shows the impact of competition on BSNL approach towards customers and customer care services.

Procedure for redressal of the complaints and grievances is elaborated at Annexure 1.18.

1.8 Future Strategies of BSNL (2007-08)

In his message on January, 2007, CMD BSNL has clearly indicated the approach of the company. The excerpts of his message are reproduced below:-

“The year 2007 begins with a bonanza for our broadband customers. With effect from 1st January 2007, we have decided to enhance the broadband speed from 256 Kbps to 2Mb, which is almost 8 times of the existing speed. All existing Broadband users will be automatically upgraded to 2Mb speed, subject to the technical feasibility. Data download limit has also been increased from 400Mb / 2GB to 1GB / 4GB for ‘Home 250’ and ‘Business 700’ Tariff Plans respectively. Even the per MB download rate has been reduced from Rs.1.40 per MB to 90 paisa per MB in the ‘Home 250 Plan’. The subscribers of ‘Home 250’ and ‘Business 700’ plans stand benefited by Rs.840/2400.00 per month respectively. Data download limits have been enhanced for other tariff plans also. For details you may visit our website or contact our executives in Customer Service Centers/Call Centers. (www.bsnl.co.in )

Year 2007 is going to witness a Broadband revolution as we have declared 2007 as “YEAR OF BROADBAND”. BSNL intend to invest Rs.2000 Crore to strengthen the Broadband Infrastructure. The broadband service is available in about 600 cities / towns. There are plans to extend Broadband coverage to more than 1000 Cities/Towns and
20000 Villages over the next two years. During the year 2007, Broadband coverage will be provided to all Secondary/Higher Secondary Schools and all Public Health Centers. Gram Panchayats will be brought under Broadband map progressively by 2008. (Abhishek, 2007)

BSNL’s existing Broadband capacity of 1 Million ports is planned to be augmented by 5 million ports, out of which 1.8 million ports will be deployed in rural areas. It is in the process of launching Broadband access through Wi-Max technology in about 1000 Block Headquarters. Wi-Max is capable of offering Wireless Broadband Service in a radius of 20-25 Kilometers. The launch of Triple Play Services and On-Line Gaming Services over Broadband is expected any time during this year.

BSNL have a plan to increase our GSM capacity by 60 Million lines over the next two years. Location Based Services will be introduced for our mobile customers during January 2007 itself. Latest features on our fixed line phones are being provided and it would gradually replace the existing telephone instruments of the customers with instruments having facilities like CLIP etc. (www.bsnl.co.in)

1.8.1 Project Shikhar of BSNL

On the advice of Boston Consultancy Group (BCG); the consultants to revive the dwindling market share of BSNL, the Board of Directors had decided to launch Project Shikhar as company’s flagship project. Under this main project, there are following projects which are area specific.

- Project Vijay for marketing.
- Project Udhaan for broadband and landline services.
- Project Sanchay for Expenditure control.
- Project Kuber for Revenue increase.
- Project Smile for customer care services and
- Project Dosti for tapping PCO market.
In January, 2009 CMD BSNL described aspirations for BSNL (Goyal, 2009) by the year 2013 as follows:

- Be the leading telecom service provider in India with global presence
- Create a customer focused organization with excellence in sales, marketing and customer care
- Leverage technology to provide affordable and innovative products / services across customer segments
- Provide a conducive work environment with strong focus on performance
- Establish efficient business processes enabled by IT

This is a very strong indication that BSNL is gearing up to meet the challenges of competition.

1.8.2 Launch of 3G

The commitment of BSNL to achieve its mission and objective is clear from the message of CMD on the occasion of launch of 3G. (Annexure 1.19) CMD had also disclosed the steps taken to reduce churning by reducing STD call rates and offering maximum value for customer money from the trusted BSNL brand services.

1.8.3 Steps Taken to Stop Churning of Landline Customers

The following remedial measures suggested by Honorable Minister of State for Communications and IT give a clear picture of the strategy being followed by these PSUs to retain and grow the landline customer base.

- Improving the legacy PSTN Network (N/W) by change of cables, drop wire etc. as required.
- All exchanges have been made digital to improve service quality.
- Rehabilitation of outdoor N/W is being done on continuous basis to reduce fault rate and Mean Time To Repair (MTTR).
- New RSUs/ DLCs are being provided to reduce faults.
• It plans to commission convergent billing & CRM in current year. This system provides one bill for all services to a subscriber. The system will also address customer request of services, tariff, complaint resolution etc.

• It is providing a lot of value added services for PSTN subscribers like news, songs, astrology, e-ticketing, SMS, Voice SMS, Internet, broadband, IPTV etc in line with the emerging trends.

• New tariff plans in landline based PCOs are launched to retain holders and attract new franchisees.

• MTNL is also taking care of its customers by opening Sanchar Haat, customer service centre, appointment of Dealers & Agent & special care of Corporate Customers.

• It is reviewing its tariff for various products and services so as to make them customer friendly and to suit various segments of the society.

• It has launched VOIP Services to provide ISD calls at lower tariffs. Nearly 2000 VOIP connections are working each in Delhi and Mumbai in MTNL as on 31.08.08.

• MTNL has introduced Broadband Services which has been a great success in the country. 5.97 lakh broadband connections are working as on 31.08.2008.

• MTNL has launched IPTV Services in both Delhi and Mumbai. It has helped stop the churn of landline subscribers & has provided enhanced video services to the customers.

• Promotional offers as well as some new plans have been introduced in both Delhi and Mumbai.

(http://www.moc.gov.in)

The above given objectives show the tentative steps being proposed for reversing the churning trend of BSNL and MTNL customers. It includes service quality, customer relations and new services as driving forces of PSUs in face of severe competition.
Chapter 1 : Introduction

1.9 Chapter scheme

The chapters that follow will mainly cover the thesis from the point of view of the following:

Chapter 2 Review of literature
Chapter 3 Research Methodology
Chapter 4 Customers Perception of Telecom Services in Punjab
Chapter 5 Officers Perception of Telecom Services in Punjab
Chapter 6 Summary, Conclusions and Recommendations

These topics will be elaborated in the ensuing part of the thesis.