CHAPTER - 4

A PROFILE OF BSNL

Good, the more communicated,
More abundant grows.

- John Milton
CHAPTER - 4

A PROFILE OF BSNL

INTRODUCTION

Fifty years ago, we had telephone but we have to wait for hours to speak to someone, even a few kilometers away, and if we were lucky to get through, we could hardly hear the voice. But today, it is entirely different story. Access to telecommunications is of utmost importance for achievement of the country's social and economic goals. We have instant connectivity not only within the state also across the states, and across the world. The greatest revolution however has been caused by Internet, which has given instant access to information on anything under the sun. BSNL is looked upon as a Navarathna in public sector Company for its achievements and success stories. Despite the fact that it was a Government Department of Telecommunications till September 2000,and the record of the public sector organisations in this country has often been dismal, a new record in public sector has been written mainly due to the efficient workforce. The shift from the manufacturing to service and the increasing pace of technological change are making human resources, the key ingredient to nation's well being and growth. In a service oriented industry like Telecommunications, the quality, quantity and utilization of human resources become all the more important.

Public sector is not just an industry, it is an evidence of self-reliance. It flows the flag of self-reliance for any country. Availability of affordable and
effective communications for the citizens is at the core of the vision and goal of the new Telecom policy 1999. Management of Human Resources is a system to transform Human Resource (H R) inputs into outputs. The inputs are the people, individual groups and the whole organisation. The outputs are the services provided by the people, individuals and groups. The services are the basis of the value of the people to an organisation. Bharat Sanchar Nigam Limited (BSNL) is committed to provide quality Telecom Services at affordable price to the citizens of the remotest part of the Country. BSNL is making all effort to ensure that the main objectives of the new Telecom Policy 1999¹ (salient points indicated below) are achieved:

- 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 development of telecommunication facilities in remote, hilly and tribal areas of the country;

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

Technology² is the highest wealth generator in the shortest possible period if it is deployed in the right direction. Technology strengthens the
political, economic and security structure of the nation. For India, technology has to be the vision for the future. Technology can help to transform multiple areas such as education and training, agriculture and food processing, strategic industries and infrastructure in various fields.

In the not-so-distant past, telephones were considered a luxury. Thanks to Sam Pitroda, who brought telecommunications to a national centre stage and launched the C-DoT project, telecommunication access and penetration has grown by leaps and bounds. A positive feature of the Indian telecommunication network is that the proportion of digital lines in the overall network is close to the world best. India would, by 2015, have a network which would be totally digital; provide full coverage within the country; provide mobile services based on the personal communication system; provide personal communication services including global mobile communication services by satellite and provide end to end high bandwidth capacity at commercial centres. We can expect routine use of multimedia terminals by 2015 providing video telephony and video conferencing applications on demand. Services and applications are expected to expand from voice, video conferencing and high bandwidth data applications to extensive high bandwidth services available in the bigger cities at least, and several serious applications in education, health and entertainment will be available.

BSNL is the largest telecom operator in India and is known to everybody for Basic Telephony Services for over 100 years. Presently the Plain old, Countrywide telephone service is being provided through 32,000 electronic exchanges, 326 Digital Trunk Automatic Exchanges (TAX),
Digitalised Public Switched Telephone Network (PSTN) all interlinked by over 2.4 lakh km of Optical Fiber Cable, with a host of Phone Plus value additions to our valued customers. BSNL’s telephony network expands throughout the vast expanses of the country reaching to the remotest part of the country.\[^2a\]

It is not confidence that produces success. It gives you the will to continue, when things are difficult. What separates winners from losers is how they handle problems of employees are surrounded by others who give them respect and are held in high esteem they will gain in confidence.\[^3\] The major components of good corporate governance are ethical and fair practices in all areas, demonstrating social responsibility through contributions to the society, environment, welfare etc.\[^4\] Twenty first century is going to be qualitative from the twentieth century. It is not a continuation of twentieth century at all. The hallmark of the new millennium is the speed, the speed with which the technology, polity and world view is changing. To cope up with the new environment and for achieving the objectives of the new Telecom policy and social commitments of the organisation as a public utility service an effective and efficient human resource management is essential.

**HISTORY OF TELECOMMUNICATION IN INDIA\[^5\]**

The Indian Telecom Department is the oldest public utility in the world. It is the second largest public department in our country, it started as a Telegraph System in 1855. Sir William O Shaughnessy Brooke, was the first Director General of the Telegraph. Dr.Alexander Graham Bell perfected the electric speaking telephone exchange (magneto) were opened at Bombay,
Madras and Calcutta on 28th Jan. 1882. Over about past 100 years the
department has grown from 216 lines to about 37 million land lines.

From Public Works Department to Post & Telegraphs

Like the ocean that is made of tiny drops, the P&T had a slow and
uneasy start. The sprawling Posts and Telegraphs Department, for instance,
occupied a small corner of the public works department, in 1851. William
O'Shaughnessy who pioneered telegraph and telephone in India belonged to the
Public Works Department all through the experimental stage. A regular,
separate department was opened around 1854 when telegraph facilities were
thrown open to the public.

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 an operating and maintenance staff. O'Shaughnessy was the first
Superintendent of electric Telegraphs in India and later became the first
Director General. The Indo-European Telegraph Department, which later came
to be known as the Overseas Communications, was administered by a Director-
in-Chief whose headquarters were in London. On 15th February 1888, it was
merged with the Director-General of the Indian Telegraph Department. It was
decided that the administration reports of the two departments, Indian
Telegraph Department and the Indo-European Department, should be separated
to show how the finance of the country were affected by each unit. 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 came. 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. During 1923-24, 152 questions relating to the Department were asked and answered in the Indian Legislative Assembly. Posts and Telegraphs have always evoked a great deal of interest from lawmakers.

A major reorganisation 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 imposing a burden on the tax payers or bringing in revenue to the Exchequer, how far each of the four constituent branches of the department, the postal, telegraph, telephone and wireless were contributing towards the result. 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, which 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.

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 exceptional economic and trade conditions of recent years. One of the main contributory causes was the revision and improvement of pay of the great bulk of the employees of the department in recent years. This was undertaken with the approval of the indeed under pressure by the Legislative Assembly. While the department is commonly spoken of as a commercial one, and though as far as possible it is guided by the commercial considerations in the regulation of its business. It must be realised that in many directions it is debarred from observing strict business principles. Many of the purposes which it is required to serve are unremunerative 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, doubtlessly necessary for the regulation of a public service, but which in the aggregate involve many restrictions of a kind unknown to private commercial concerns.

After the implementation of the Financial integration Scheme of 1st April 1950, the administration of the entire network of telegraph and telephone systems of the nation, including those previously existing in the former princely states became a major adventure. In 1950 the number of Telephone Exchanges absorbed from princely states was 196. These systems, which were working with different degrees of efficiency, could fit into the general telecommunication network. The installed capacity of these 196 exchanges was
13,362 lines with 11,296 working connections. Soon after the absorption, an attempt was made to improve their technical efficiency by replacing obsolete and unserviceable equipment and lending well qualified and experience staff. Simultaneously, isolated exchanges were integrated with the general pool. The more complicated task was acquisition of the staff. Their final absorption into the different cadres of service in Posts and Telegraphs was a major step.

From Posts and Telegraphs to Department of Telecommunications

Till 31st December 1984, the postal, telegraph and telephone services were managed by the Posts and Telegraphs Department. In January 1985, two separate Departments for the Posts and the Telecommunications were created. Simultaneously the department also started preparing the balance sheet annually. With the take over of the accounts from the audit and delegation of larger financial powers of the field units, internal Financial Advisers were posted to all the circles and units.

FROM DEPARTMENT OF TELECOMMUNICATIONS TO BNSL

The Telecommunications Department is responsible for providing the Telecommunication facilities to specified standards at reasonable low cost to serve all the section of the society and other Government Departments like Railways, Defence etc. The telecommunications Board consisted of the Secretary Telecommunications, who was the Chairman with 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 Chairman wield the power and responsibility for major policies and long term plans of the department, keeping in view the over all development of the country. The Telecommunication technology has developed from gramte and masonry pillars, caught up with the steel age and come up to the era of Satellite communication. Consequently the sophistication in the technology calls for a systematic and organised planning, installation and maintenance. The Department in 1986 recognised the Telecommunication Circles with the Secondary Switching Areas as basic units. This was implemented in a phased manner. Bombay and Delhi Telephones were separated to create the new entity called Mahanagar Telephone Nigam Ltd. (MTNL).

**National Telecom Policy 1994**

The focus of the Telecom Policy shall be telecommunication for all and telecommunication within the reach of all. The plan documents in Telecom are formulated with main thrust on four areas:

i. Accessibility.

ii. Reliability of Service.

iii. Development of Rural Communication System

iv. Availability of New and Enhanced Services.
To promote rapid development in Telecom sector in India, National Telecom Policy 1994 formulated its prime objectives including achievement of telephone on demand situation as early as possible, provision of world class services at reasonable prices, universal availability of basic telecom services to all rural villages and ensuring India’s emergence as major manufacturing/export base of telecom equipments. It also announced a series of specific targets to be achieved by 1997.

To achieve prime objectives of telephone on demand government had allowed any Registered Company in India and licenced for the purpose of operate Basic Services, breaking the monopoly of DOT, consequent on liberalised economic policy implementation. For implementation of it the Telecom Regulatory Authority of India (TRAI) was formed on 1.4.1997.

Main Functions of TRAI

1. TRAI make recommendations at the request of Licensor or suo motot in the matter regarding.
   a. Need and timing of introduction of new service provider.
   b. Terms and conditions of license to a Service Provider.
   c. Revocation of license for breach of conditions.
   d. Measures to promote quality of service and competition in the Telecom field.
e. Technological improvement type of equipment of the services to be provided by a Service provider.

f. Measures for efficient management of available spectrum.

2. Ensure compliance of terms and conditions of license. Technical comparability, interconnection, sharing of their revenue among the Service Providers.

a. Law down the standards and time limit for providing specified Telecom services.

b. Ensure compliance of universal service obligation.

c. Law fees and other charges.

d. Any other work assigned to it by under the act.

3. It notifies the rates at which Telecom services in India shall be provided including for the services transmitted to other countries. It shall while performing its function, it shall not act against the interest of the Nation, public order or morality and shall maintain transparency.

The authority has power to call for any information or conduct investigation etc. through its officers or through the persons appointed for the purpose in the matters of Telecom Services.

In an enquiry relating to the affairs of Service Provider or a Government Department, all the Officers, Directors, Managers, Secretaries, employees of the service provider shall be bound to produce all the records/documents in his
custody or power and furnish all the information known to him to the authority or its representatives enquiring. Every Service Provider shall maintain such books of account and other documents prescribed by the authority. The authority may issue suitable directions to the Service Providers.

Telecom Dispute Settlement and Appellate Tribunal

The Telecom Dispute Settlement and Appellate Tribunal is established by the Central Government under TRAI Act to adjudicate any dispute between

a. The Licensor and a Licensee

b. Two or more service providers

c. Service Provider and group of consumers excepting in the matters falling under the consumer protection act or Section/BSNL Telegraph Act.

The Central / State Government local authority or any person may make an application for adjudication of dispute among them or appeal against the orders of TRAI to TDS Tribunal. The appeal shall be made within 30 days of the receipt of the order appealed against. However, the tribunal may condone the delay and accept the appeal.

On receipt of application or appeal after giving opportunity to all the parties to dispute/appeal, it shall decide the case as it thinks fit. The tribunal shall make endeavor to dispose of the cases within 90 days of their receipt. In case of delay beyond 90 days the reason for delay shall be recorded by it.
National Telecom Policy 1999

The Government of India (Government) recognises that provision of world class telecommunications infrastructure and information is the key to rapid economic and social development of the country. It is critical not only for the development of the Information Technology industry, but also has widespread ramifications on the entire economy of the country. It is also anticipated that going forward, a major part of the GDP of the country would be contributed by this sector. Accordingly, it is of vital importance to the country that there be a comprehensive and forward looking telecommunications policy which creates an enabling framework for development of this industry.

As against the NTP 1994 target of provision of 1 PCO per 500 urban population and coverage of all 6 lac villages, DOT has achieved an urban PCO penetration of 1 PCO per 522 and has been able to provide telephone coverage to only 3.1 lac villages. As regards provision of total telephone lines in the country, DoT has provided 8.73 million telephone lines against the eighth plan target of 7.5 million lines.

The NTP 1999 also recognised that the required resources for achieving these targets would not be available only out of Government sources and concluded that private investment and involvement of the private sector was required to bridge the resource gap. The Government invited private sector participation in a phased manner from the early nineties, initially for value added services such as Paging Services and Cellular Mobile Telephone
Services CMTS) and thereafter for Fixed Telephone Services (FTS). After a competitive bidding process, licenses were awarded to 8 CMTS operators in the four metros, 14 CMTS operators in 18 state circles, 6 BTS operators in 6 state circles and to paging operators in 27 cities and 18 state circles. VAST services were liberalised for providing data services to closed user groups. Licences were issued to 14 operators in the private sector out of which only nine licencees are operational. The Government has recently announced the policy for Internet Service Provision (ISP) by private operators and has commenced licensing of the same. The Government has also announced opening up of Global Mobile Personal Communications by Satellite (GMPCS) and has issued one provisional licence. Issue of licenses to other prospective GMPCS operators is under consideration.

Strive to provide between the provision of universal services 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.

- To get quality of services on world class standard.

- To make available Telephone on demand by the year 2002 and sustain it to achieve a higher tele density.

To provide high speed data and multimedia capability using technologies including ISDN to all towns with a population greater than 3 lakh by the year 2002.
Evolution of BNSL

Consequent upon liberalisation policies of Government of India and change in the global economy due to globalisation process, it was decided to separate DOT and DTS as a precursor of corporations.

DOT - Department of Telecom - for policy making

DTS - Department of Telecom Services - for execution of work.

Subsequently the Government has decided to transfer the business of DTS to a Government of India owned Public Sector Enterprise. On October 1, 2000 the Department of Telecom Services of Government of India became a corporation and was christened Bharat Sanchar Nigam Limited (BSNL). BSNL has been incorporated as a company with limited liability by shares under Company Act, 1956 with registered office at New Delhi.

Chairman's message

Changing regulations, converging markets, competing technologies and ever demanding customer needs have generated enormous additional opportunities for BSNL and so are the challenges. There is a gradual shift in demand from telephone centric to data centric environment, which has defined a new paradigm in telecom business.

The company with a sound financial base is ready to face the impact of the upcoming competition. The company is committed to provide a combination of products and professional services with a wide choice of end-
to-end solutions and self care to meet the aspiration of the customer and to give them the satisfaction.

**Vision of BSNL**

BSNL would like to be a high-tech customer oriented Company with emphasis on value addition.

**Mission of BSNL**

To provide world class Telecom Services on demand using State-of-Art technology for our valued Customers at affordable price.

**Introduction of a Limited Company**

Company is a legal entity existing independent of its members. It is a form of associated enterprise. It is a economic administrative structure run by professional managers who hire capital from investors. The company being a corporate form of organisation is the owner of its assets and liabilities. The liability of the members is limited to the nominal value of shares held by them. The property of the company is not the property of the share holders but of the company. The formation, functions, liabilities and dissolution etc., of the company are regulated by the companies ACT 1956. Companies are playing important role in the economic field. To protect the interest of shareholders and the economy the company act regulates the activity of the company"
Main features of the Company are:

(a) It is a voluntary association of persons.
(b) It has a separate legal entity.
(c) It is an artificial persons.
(d) It has a common seal.
(e) It has a perpetual succession.
(f) The liabilities of the members are limited since most of the companies are Limited Companies.
(g) A Board of Directors Manages the Company.
(h) It must have a registered office.

A new company is registered with a specified capital called Authorised Capital. Authorised Capital is divided into number of shares of specified nominal values. Total paid up capital is called paid up capital of Company.

The share may be defined as an interest in the company entitling the owner thereof to receive proportionate parts of profit and at the same time proportionate part of assets of the company in case of liquidation. Every company shall keep in its registered office proper books of accounts with respect to all sums of money received and spent by the company and the matter in respect of which receipts and payments took place, all sales and purchases of the goods by the company, assets and liabilities of the company, such books may be kept at the other places as decided by the board of directors under intimation to the Registrar within seven days of such decision. Where company has branch office such accounts relating to the branch business must be
maintained there and at intervals not more than three months, summarised
returns made up to date should be forwarded to the Registered office/office
nominated. The account must give true and fair view of the state of affairs of
the company and explain its transactions. Such account books should be kept
on accrual basis and according to the double entry system of accounting.
Thus BSNL is a fully Government owned company with an assessed capital of
nearly 63,000 crores and a capital structure as follows.

i. 500 crores share at the rate of Rs.10/- each = 5,000 crores (Equity capital)

ii. Receivable and Creditors = 1,500 Crores

iii. Long term debts + Reserves = Balance Amount.

Procedural difference between Govt. Departments and Limited Company

The aim of every govt. company is to administer the country with the
help of its departments and for achieving the objective of providing social
security and services. For this, the govt. assesses, its requirement of funds for
meeting aforesaid objectives and then raising necessary funds by imposing
various taxes fixing fee/charges for various services and obtaining loans. The
policy adopted is always to put minimum burden to taxpayers for achieving
fixed targets.

Various departments of govt. act as tools of govt. All the activities of
departments are regulated by rules and policies fixed by govt. Departments
grow in shelter of national economy. But in a Corporate/Company structure, a
Board of Directors, headed by a C.M.D. governs the whole administration.
Interest and its policies are being decided by Board of Directors in a Company structure. They decide its marked strategy indicating rates of various products/services. A Company has to watch whole market including global market trends.

However, BSNL has to work as per its policies and guidance.

"The Company has to compete in the field of economy".

Government company means any company in which not less than 51% of the paid up share capital is held by the Central government or "State government or partly by central and state government. It includes a company subsidiary to government company.

Achievement of BSNL

Today, BSNL is the largest Public Sector Undertaking of India and its responsibilities include improvement of the already impeccable quality of telecom services, expansion of telecom network, introduction of new telecom services in all villages and instilling confidence among its customers. Responsibilities that BSNL has managed to shoulder remarkably, deftly. Today with a 37 million line capacity, 99.9% of its exchanges digital, national wide Network management & surveillance system (NMSS) to control telecom traffic and nearly 250373 route kms of OFC network. BSNL is a name to recon with the world of connectivity. Along with its vast customer base, BSNL's financial and asset bases too are vast and strong. The telephone infrastructure alone is worth about Rs.1,100,000 crore (US$21.2 billion) turnover of Rs.22,000 crore (US$ 4.6 billion).
Basic Telephone Services

BSNL's nationwide coverage and reach, comprehensive range of telecom services and a penchant for excellence; and you have the ingredients for restructuring India for a bright future.

Table 4.1   NETWORK AT A GLANCE

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Parameter</th>
<th>Unit</th>
<th>Status as on</th>
<th>Achievement</th>
<th>Status as on</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Telephone Exchanges</td>
<td>Nos</td>
<td>36136</td>
<td>36618</td>
<td>482</td>
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<td>2.</td>
<td>Net Equipped Capacity</td>
<td>Lines</td>
<td>45031557</td>
<td>53421282</td>
<td>8389725</td>
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<td>3.</td>
<td>Total Direct Exchange Lines (DELS)</td>
<td>Lines</td>
<td>38189165</td>
<td>41648646</td>
<td>3459381</td>
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<td>4.</td>
<td>Optical Fibre Cable</td>
<td>RKms.</td>
<td>402083</td>
<td>437475</td>
<td>35392</td>
</tr>
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<td>5.</td>
<td>Public Telephones</td>
<td>Nos.</td>
<td>1195668</td>
<td>1519686</td>
<td>324018</td>
</tr>
<tr>
<td>6.</td>
<td>ISDN Connections</td>
<td>Nos.</td>
<td>49868</td>
<td>63879</td>
<td>14011</td>
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<td>7.</td>
<td>Village Public Telephones (VPIs)</td>
<td>Nos.</td>
<td>504945</td>
<td>509682</td>
<td>4737</td>
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<td>8.</td>
<td>No. of Blocks covered with Internet Dhabas</td>
<td>Nos.</td>
<td>3484</td>
<td>3616</td>
<td>132</td>
</tr>
<tr>
<td></td>
<td>(Total Blocks 6329 including Taluks)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9.</td>
<td>Internet connections</td>
<td>Nos.</td>
<td>434670</td>
<td>934950</td>
<td>500280</td>
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</table>

Though numerous instances of surrender and disconnections of basic telephone services across the country took place, the company remains the largest basic telephone provider in the country.\(^8\)
Cellular and Mobile Telephone Services

The Company's GSM based cellular mobile network has reached across the country in more than 1702 cities and having subscriber base of over 6.5 million during a short span of 20 months (as on 31.5.2004) holding 25% market share. Being the largest telecom operator of the country it has provided extensive coverage, which includes all district head quarters in the country, all major national highways, important tourists and religious centers, important state highways and railway routes, except in North Eastern region and those falling close to border areas.

BSNL's CDMA technology based WLL connections have crossed 15 lakhs subscribers.

Broadband

Broad band is the latest telecommunication services offered by BSNL. The company launched its broadband services, 'Dataone' on 14th January 2005, with this the Internet always works at a speed of 256 kbps onwards, broadband is another step towards better communications for the masses, now, it has crossed more the 17 lakhs connections throughout the country.
<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Circle</th>
<th>Capacity as on</th>
<th>Connectinos as on</th>
<th>Towns Cities covered as on</th>
<th>DHQs covered as on</th>
</tr>
</thead>
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<tr>
<td></td>
<td></td>
<td>March, 03</td>
<td>March, 04</td>
<td>March, 03</td>
<td>March, 04</td>
</tr>
<tr>
<td>1.</td>
<td>Andaman &amp; Nicobar</td>
<td>2000</td>
<td>5000</td>
<td>2083</td>
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<td>Assam</td>
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<td>7.</td>
<td>Himachal Pradesh</td>
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<td>22274</td>
<td>72625</td>
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<tr>
<td>8.</td>
<td>Jammu &amp; Kashmir</td>
<td>0</td>
<td>37200</td>
<td>0</td>
<td>40100</td>
</tr>
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<td>9.</td>
<td>Karnataka</td>
<td>307500</td>
<td>340000</td>
<td>200205</td>
<td>330196</td>
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<tr>
<td>10.</td>
<td>Kerala</td>
<td>326000</td>
<td>326585</td>
<td>203931</td>
<td>373752</td>
</tr>
<tr>
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<td>Madhya Pradesh (+ Chattisgarh)</td>
<td>85300</td>
<td>13580</td>
<td>80035</td>
<td>152911</td>
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<td>12.</td>
<td>Maharashtra</td>
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<td>495300</td>
<td>275533</td>
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<td>North East</td>
<td>0</td>
<td>25796</td>
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<td>20264</td>
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<td>14.</td>
<td>Orissa</td>
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<tr>
<td>16.</td>
<td>Rajasthan</td>
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<td>191700</td>
<td>85117</td>
<td>221387</td>
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<tr>
<td>17.</td>
<td>Tamil Nadu</td>
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<td>410000</td>
<td>160089</td>
<td>400137</td>
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<tr>
<td>18.</td>
<td>Uttar Pradesh (East)</td>
<td>74000</td>
<td>289809</td>
<td>127905</td>
<td>345221</td>
</tr>
<tr>
<td>19.</td>
<td>Uttar Pradesh (West) + Uttarakhand</td>
<td>98600</td>
<td>297430</td>
<td>128553</td>
<td>380698</td>
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<tr>
<td>20.</td>
<td>West Bengal</td>
<td>40800</td>
<td>147350</td>
<td>72897</td>
<td>168135</td>
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<tr>
<td>21.</td>
<td>Chennai T.D.</td>
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<td>130594</td>
<td>0</td>
<td>121553</td>
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<tr>
<td>22.</td>
<td>Kolkatta T.D.</td>
<td>30000</td>
<td>40000</td>
<td>19159</td>
<td>26401</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>2690140</td>
<td>4865077</td>
<td>2256288</td>
<td>5254117</td>
</tr>
</tbody>
</table>
History of Telephones in Chennai

Within five years of its invention, "the wonder machine of speech", christened as telephone, made its debut in the city of Madras in 1881. In November 1881, licenses were granted by His Excellency The Governor General in Council to Messrs Oriental Telephone Company for establishing telephone exchanges at Madras, Bombay, Calcutta and Rangoon with defined exchange boundaries. Under this agreement, the first Magneto telephone exchange was opened on 28.1.1882 at building number 37, Errabalu Chetty Street, Madras. Then Madras city was a compact metropolis with 27 square miles in extend and a population of 4 lakhs with only 8 municipal divisions. The then merchant community was not much inclined to have a telephone during those days in spite of various concessions offered by the company through many press advertisements. The direct exchange lines moved from 24 in 1882 to only 350 in 1910.

Persistent personal canvas blended with judicious press advertisements brought a gradual realisation of the utility of telephones amongst the public and Madras, in spite of many complaints of cross talk and dislocation in services. In 1892, the license granted to Messrs Oriental Telephone company cam up for renewal. By that time, the thinking of the Government on Telephone services underwent a metamorphosis in the phase of having nationalistic tide. Hence, on the eve of renewal, three main conditions were laid.

The business should pass into hands of local company
The system should be modernized

The rates can be raised to reach the second objectives

Under the first objective a "Rupee" company was formed on 24.1.1923 in the name of "Madras Telephone Company Limited" with an authorised capital of Rs.5 lakhs divided into 50000 equal shares of Rs.10 each. Mr.G.W.Bromhead was the Managing Director of Madras Telephones Company. Since then, the direct exchange lines rose to 1224 lines. One managing director, one assistant manager and one assistant engineer manned the Telephone exchange. Only flat rate rental was collected from the subscribers. Apart from 1224 subscribers, public call offices were also opened at 5 places namely Central Station, Egmore Station, Madras Harbour and Salt Cotaurs. Due to the flat rate system there was not much use for public call offices. Subsequently measured rate tariff was introduced as adopted in London. Though there were protests at the initial stage, from the business community, finally the company convinced the subscribers to accept the measured rate system.

The Raise of Telephone House

The space at Errabalu Chetty street exchange became so much cramped for further extension of the exchange capacity. Proposals were also made to automate the manual exchange as in the pattern of the London telephone system. With a view to achieve these twin objectives, a piece of land measured 21000 square feet was allotted by the Government at China Bazaar in 1925. In
the same year, the building was designed and expeditiously constructed. A new building was acclaimed to be handsome, christened as "TELEPHONE HOUSE" and occupied in December 1925. The ground floor of the building was earmarked for an automatic exchange, the first floor for the office and the second floor for the quarters of the resident engineer.

A Strowger Automatic Telephone Exchange of 1000 lines ultimate capacity was cut over on second April 1926 (Good Friday) at 7.00 A.M. with the numbering scheme starting from 2000.

**Going Under Ground**

In spite of automation of the exchange, frequent interruptions of subscribers lines were caused due to the snapping of overheaded lines by vegetation, frequent temple car festivals and heavy wind/gales. To overcome this problem, Madras telephones started in terms of providing underground cable network for subscribers' connections. Laying of under ground cables were started during 1927-28 and cables were laid upto Guindy. Areas like Perambur, Royapuram and Harbour were covered by under ground cables by 1932.

The dawn of automatic exchange along with the under ground cable network laid the road for telephone development for a victorious march. The number of Direct Exchange Lines which was 1310 in 1925 rose to 1832 in 1930. Prior to 1932, the Telephone Directory was slender and with a mere paper cover. During 1932, due to more entries in telephone directory, a face-lift
was given to the directory by providing a stiff broad cover. Sufficient advertisements were canvassed to entirely cover the cost of directory publication. The October 1934 directory came up with multi colour wrappers. Directory was released once in 6 Months (April & October). In 1932, the telephones in Madras city had completed 50 years. It started with 24 connections in 1882 and rose to 1753 Direct Exchange Lines, 997 extensions and 74 private lines during 1932. During the jubilee year, apart from the higher share profits, a special jubilee bonus dividend was announced.

**Opening of exchanges at various load centers**

Due to the automation of telephone services and its use for business promotion, the demand for telephone connections spread over the South Madras area. In 1929, a satellite automatic exchange of 200 lines capacity was commissioned at Mount Road. With the increase in the demand for phone connection, 100 lines were added at Mount Road exchange in 1932. The exchange was further expanded in 1933.

Perceiving a galloping growth in future, the Madras Telephone Company conceived a "New Mount Road Exchange", as far back as October 1940. Due to the increase in the demand for more telephones in South Madras area a Satellite exchange of 500 lines capacity was commissioned during 1937. With the outbreak of the Second World War, military concentration in and around St.Thomas Mount Exchange area became greater. In 1944, a 100 lines satellite exchange was commissioned at St.Thomas Mount.
The Gathering Cloud

With the invasion of Poland by Germany in 1939, Second World War exploded. Communications being the essential component of the war machine, all the plants manufacturing telephone equipment in England were brought under the direct control of the military and all telephone equipments were ready to be transported to the nearest war fronts. For the Madras Telephones Company, war was no longer meant deadly clash of men and machines. It began to mean a total stoppage of essential telephone equipments supply from London. All development activities of Madras telephones came to a grinding halt. On the other side, Madras telephones was asked to provide an air raid precaution scheme for the city of Madras and an excellent scheme was devised. The government readily accepted the scheme without any modification. The scheme was very successful during the entire span of war. On the night of December 12, 1943, by about 2.00 A.M. the silence of the sleeping city was pierced by the screams of sirens. A lone Japanese bomber sneaked through and was hovering over the city and dropped a bomb at the Harbour area and flew past, through the maze of crossfire unleashed by the anti aircraft guns, forming part of the city's coastal batteries. Fortunately, there were no casualties. Madras Telephones derived a high sense of satisfaction in the realization that it played its part well in leading to safety, the sleeping city of Madras in a real air raid.
The emergence of Government Telephone Board in Madras

The war conditions highlighted to the government, the anachronism of a vital service like telephones remaining in private hands. It desired to take over the system and to achieve this objective, a conference was held in New Delhi as early as 1941. As an outcome of this conference, a company under the name of "Government Telephone Board" was formed with the Director General Posts and Telegraphs as its Managing Director. At the time of taking over of Madras Telephones by the government of India from Madras Telephone Company, there were only 3300 lines in Madras. The progress made during 1943 to 1947 was also very meager due to the war ravaged economy of the country. The scope of Madras Telephones enlarged in 1946, when the trunk exchange, which was under the control of The Post Master General, was transferred to Madras Telephones.

The early fifties saw the opening of small satellite exchanges in and around the suburbs of Madras and satellite exchanges of 700 lines capacity using Discriminator Relay sets were installed, one at Mylapore and the other at Kilpauk. These exchanges were parented to the Main exchange, while the other two satellite exchanges at St Thomas Mount and Mambalam were parented to the Mount Road exchange. During the early sixties, satellite exchanges of MAX II type, using 100 outlets selectors were installed at the fringe areas like Ennore, Ambattur, Redhills and Poonamallee. These satellite exchanges were parented to the nearby Main exchanges. In Chennai Telephones, the first electronic exchange of E-10B technology was installed at Flower Bazaar exchange building in December 1985. Advanced type electronic switching
equipment named OCB 283 was introduced in Chennai in 1996. These exchanges are capable of handling very high traffic with higher system stability. Chennai telephones is gearing up to extend all the facilities to its subscribers which are available globally by updating the technologies constantly. Some of the memorable milestones in the History of Chennai Telephones is given below. Now Chennai Telephones crossed 1 million lines equipped capacity in 2000.

<table>
<thead>
<tr>
<th>Year</th>
<th>Special Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>1882</td>
<td>Telephone Service started by Oriental Telephone &amp; Electric Company</td>
</tr>
<tr>
<td>1923</td>
<td>Madras Telephone Company took over</td>
</tr>
<tr>
<td>1943</td>
<td>Government of India takes over Madras Telephone Company</td>
</tr>
<tr>
<td>1966</td>
<td>First point to point STD route to Bangalore commissioned</td>
</tr>
<tr>
<td>1967</td>
<td>First Cross-bar Exchange commissioned at Mambalam</td>
</tr>
<tr>
<td>1968</td>
<td>First Trunk Automatic Exchange commissioned</td>
</tr>
<tr>
<td>1983</td>
<td>Ducting of Cable Routes commenced</td>
</tr>
<tr>
<td>1984</td>
<td>First Electronic Analogue Exchange commissioned at Haddows Road</td>
</tr>
<tr>
<td>1984</td>
<td>SPC TAX Exchange commissioned</td>
</tr>
<tr>
<td>1984</td>
<td>Chennai Telephones reaches 1 lakh equipped capacity</td>
</tr>
<tr>
<td>1985</td>
<td>First Electronic Teleprinter installed</td>
</tr>
<tr>
<td>1986</td>
<td>Computerized Telephone Billing introduced</td>
</tr>
<tr>
<td>Year</td>
<td>Event</td>
</tr>
<tr>
<td>------</td>
<td>-------</td>
</tr>
<tr>
<td>1987</td>
<td>Digital Microwave introduced in Transmission Network</td>
</tr>
<tr>
<td>1987</td>
<td>PCM systems introduced in Transmission Network</td>
</tr>
<tr>
<td>1988</td>
<td>First issue of Telephone Directory issued with Yellow Pages</td>
</tr>
<tr>
<td>1990</td>
<td>Optical Fibre Cable introduced in Transmission Network</td>
</tr>
<tr>
<td>1990</td>
<td>E10B Digital TAX commissioned</td>
</tr>
<tr>
<td>1991</td>
<td>Inet Data Exchange commissioned</td>
</tr>
<tr>
<td>1992</td>
<td>2 lakh lines equipped capacity reached</td>
</tr>
<tr>
<td>1993</td>
<td>First New Technology Exchange installed at Annanagar</td>
</tr>
<tr>
<td>1994</td>
<td>All Strowger Exchanges closed</td>
</tr>
<tr>
<td>1997</td>
<td>5 lakh lines equipped capacity reached</td>
</tr>
<tr>
<td>1997</td>
<td>ISDN Services launched</td>
</tr>
<tr>
<td>1998</td>
<td>WEB-SITE LAUNCHED... that's where you are now</td>
</tr>
<tr>
<td>1999</td>
<td>7.5 lakh lines equipped capacity reached</td>
</tr>
<tr>
<td>1999</td>
<td>Electro-mechanical Cross-Bar Exchanges closed</td>
</tr>
<tr>
<td>1999</td>
<td>Intelligent Services Network launched-FPH, VCC, PRM, ACC &amp; VOT</td>
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<tr>
<td>1999</td>
<td>Laser Printed Telephone Bill in new format introduced</td>
</tr>
<tr>
<td>2000</td>
<td>Phone-Book on CD-ROM released</td>
</tr>
<tr>
<td>2000</td>
<td>1 million lines equipped capacity achieved</td>
</tr>
<tr>
<td>2000</td>
<td>Annual Revenue crosses Rs.1000 crores</td>
</tr>
<tr>
<td>2000</td>
<td>National Internet Back-Bone (NIB) Commissioned-Chennai Telephones becomes an ISP</td>
</tr>
<tr>
<td>2001</td>
<td>WILL (Wireless in Local Loop) Technology for fixed telephones</td>
</tr>
<tr>
<td>2002</td>
<td>DIAS (Direct Internet Access Service) commenced at Anna Nagar &amp; Anna Road Exchanges</td>
</tr>
</tbody>
</table>
Organisation Structure of BSNL

An organisation structure is a set of planned relationships between groups of related functions between physical factors and personnel required for the performance of the functions. The structural relationships among different departments, employees and other resources is designed to achieve objectives of the enterprises.

Organisation is the process of identifying and grouping the work to be performed, defining and delegating responsibility and authority and establishing relationships for the purpose of enabling people to work most effectively together in accomplishing objectives.
The Chief Managing Director is the Head of the organisation with five Directors for Finance, Operations, Commercial and Marketing, Planning and New Services and HRD. There are 26 territorial circles including Chennai Telephones and Kolkata Telephones. Each circle is headed by the Chief General Manager who performs the operation, maintenance Development and administrative functions of the circle in respect to the products and services provided by the organisation. All Chief General Managers are directly reporting to the Chief Managing Director. Apart from the territorial circles there are four specialised Telecom units, four production with and Telecom Stores, Railway Electrification project, Telecom civil wing and Telecom Electrical wing. Head of all these units are directly reporting to the Chief Managing Director.

**Staff Strength**

The total staff strength of the organisation is 345822. Groupwise strength is shown below:

<table>
<thead>
<tr>
<th>Group</th>
<th>Strength</th>
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<tbody>
<tr>
<td>Group A</td>
<td>7889</td>
</tr>
<tr>
<td>Group B</td>
<td>49158</td>
</tr>
<tr>
<td>Group C</td>
<td>239648</td>
</tr>
<tr>
<td>Group D</td>
<td>49127</td>
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</table>
* Including 3643 nos. Industrial Workers

**Fig. 5.2** Staff of BSNL-A graphical view
Fig. 5.1 ORGANISATION CHART OF BSNL
<table>
<thead>
<tr>
<th>Telecom Circles</th>
<th>Metro Districts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Andaman &amp; Nicobar Telecom Circle</td>
<td>Kolkata</td>
</tr>
<tr>
<td>Andhra Pradesh Telecom Circle</td>
<td>Chennai</td>
</tr>
<tr>
<td>Assam Telecom Circle</td>
<td>Project Circles</td>
</tr>
<tr>
<td>Bihar Telecom Circle</td>
<td>Eastern Telecom Project Circle</td>
</tr>
<tr>
<td>Chhattisgarh Telecom Circle</td>
<td>Western Telecom Project Circle</td>
</tr>
<tr>
<td>Gujarat Telecom Circle</td>
<td>Northern Telecom Project Circle</td>
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<tr>
<td>Haryana Telecom Circle</td>
<td>Southern Telecom Project Circle</td>
</tr>
<tr>
<td>Himachal Pradesh Telecom Circle</td>
<td>IT Project Circle, Pune</td>
</tr>
<tr>
<td>Jammu &amp; Kashmir Telecom Circle</td>
<td>Maintenance Regions</td>
</tr>
<tr>
<td>Jharkhand Telecom Circle</td>
<td>Eastern Telecom Maintenance Region</td>
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<tr>
<td>Karnataka Telecom Circle</td>
<td>Western Telecom Maintenance Region</td>
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<tr>
<td>Kerala Telecom Circle</td>
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<tr>
<td>Madhya Pradesh Telecom Circle</td>
<td>Southern Telecom Maintenance Region</td>
</tr>
<tr>
<td>Maharashtra Telecom Circle</td>
<td>Specialised Telecom Units</td>
</tr>
<tr>
<td>North East – I Telecom Circle</td>
<td>Data Networks</td>
</tr>
<tr>
<td>North East - II Telecom Circle</td>
<td>National Centre For Electronic Switching</td>
</tr>
<tr>
<td>Orissa Telecom Circle</td>
<td>Technical &amp; Development Circle</td>
</tr>
<tr>
<td>Punjab Telecom Circle</td>
<td>Quality Assurance</td>
</tr>
<tr>
<td>Rajasthan Telecom Circle</td>
<td>Production Units</td>
</tr>
<tr>
<td>Tamil Nadu Telecom Circle</td>
<td>Telecom Factory, Mumbai</td>
</tr>
<tr>
<td>UP (E) Telecom Circle</td>
<td>Telecom Factory, Jabalpur</td>
</tr>
<tr>
<td>UP (W) Telecom Circle</td>
<td>Telecom Factory, Richhai</td>
</tr>
</tbody>
</table>
Uttaranchal Telecom Circle
West Bengal Telecom Circle

**Training Institutions**

Advanced Level Telecom Training Centre
Bharat Ratna Bhim Rao Ambedkar Institute of Telecom Training
National Academy of Telecom Finance and Management
Regional Telecom Training Centres
Circle Telecom Training Centres

**Other Units**

Telecom Factory, Kolkata
Railway Electrification Project
Telecom Electrical Wing
Telecom Civil Wing
Telecom Stores

**Summary**

Indian telecommunication industry has shown a tremendous growth by providing world class telecommunication services accessible to all corners of the country. BSNL, being the new public sector enterprise has achieved the objectives of the New Telecom Policy 1999 by achieving telephone on demand condition, world class services at reasonable rates, universal availability of basic telecom services to all rural villages and ensuring the number one status in the Indian Telecommunication Industry.

BSNL is the only telecommunication service provider which has established its network even in the remotest part of the country. Mahatma Gandhi, the father of the nation insisted every project or scheme or facility should reach and facilitate the rural people of the country. BSNL is the only
telecommunication service provider who cares for the rural people. BSNL who cares for common people is considered to be the Mahatma among its competitors in telecom industry\textsuperscript{10}. It provides telecommunication access to villages which has no transport facility. Postman takes WLL telephones to the remote villages under its scheme Grameen Sanchar Sevak.

The organisation’s 'Cellone' GSM Cellular mobile services and 'Dataone' Broadband are the new telecommunication services provided after its conversion as BSNL from DOT and crossed 12 million mobile connections and 17 lakhs broadband connections throughout the country.

Organisations that intend to compete cannot implement the continuous changes required by a competitive environment without the good will, commitment and understanding of the vast majority of both executives and employees. Technology has to keep pace with the adaptation by the workforce of the organisation, BSNL has proved it possible with its committed workforce.
END NOTES

1. http://tamilnadubsnl.co.in/corporateinfo/NTP/ntp.htm


2a. http://www.bsnl.co.in/service/telephone.htm


5. Tele-Crusader, November 2003, pp.20-21


7. http://www.bsnl.co.in/chairmansmessage

7a. http://www.bsnl.co.in/company/vision.htm

8. Annual Report of BSNL for 2003-04, p22(b)

9. Ibid, p22(c)