average. Broadband is other promising area where lot of efforts is required for its expansion. Marketing of services is not up to the mark and some serious steps need to be taken in this area because customer acquisition and retention is of prime importance in the highly volatile telecom market place where high churning and low customer loyalty are the characteristics. Despite all this, growth in the telecom sector, the digital divide is continuously increasing. Private players are less interested in high investment oriented and low return paying rural India but for BSNL there is a big opportunity here because BSNL already has a large network of more than 36,000 digital exchanges connected by optical fiber cable backbone. BSNL can rely on its existing infrastructure to position itself as a formidable player in the tele communication arena.

4.1 INTRODUCTION

BSNL is having a pan India presence except in Mumbai. It is an integrated telecommunications company. It has established a quality telecom network in the country. The company is working on improving it, expanding the network and introducing new telecom services. It has trained manpower with vast experience in planning, installation, commissioning and maintenance of switching and transmission networks. It has an in house world class ISO 9000 certified telecom training institute. Recognizing the rising expectations and requirements of the customers, BSNL endeavours to harness the rewards of telecom revolution. Towards this, it had redefined the term 'telecom service' by introducing value added services in the form of intelligent network. This technology makes possible, time and cost effective services, optimized solutions, meeting the exact needs of the customers, attending to additional business for customers. In this chapter an attempt has been made to analyse the various schemes of BSNL landline and mobile services.
4.2 LANDLINE TELEPHONE CONNECTION

A landline telephone connection also known as landline (or) fixed-line refers to a phone which uses a solid medium telephone line such as a metal wire or fibre optic cable for transmission as distinguished from a mobile cellular line which uses radio waves for transmission. The term landline is also used to describe a connection between two or more points that consists of a dedicated physical cable.\textsuperscript{90}

4.2.1 Advantages of BSNL Landline Telephone Connection

- There is superior voice quality – No issue of coverage, call drops etc. T there is no communication gap.
- Land line works without electricity – as no charging is required and there is safety from hazards related to overcharging of batteries.
- There is no health hazard as there are no radio waves
- Multiple facilities like call tunes, two way speaker phone, phone book, caller line identification facilities, answering machine and the like are available.
- There is no maintenance cost for instrument.
- High speed broadband and many value added services like Internet Protocol Television (IPTV), Voice over Internet Protocol (VOIP), Fibre to the Home (FTTH) and the like are available at very affordable rate.

\textsuperscript{90} Available at: http://www.homephonechoices.co.uk/landline.html
A telephone directory is available

There is no problem such as Subscriber Identification Module card becoming faulty.

Many tariff plans are available to suit your needs

There is Centrex facility for unlimited calling is available

The Pulse Rate is as low as 3 min (180 sec)

The phone numbers are short (6 to 8 digits) and easy to remember

It is an environmental friendly proposition as there is no need for frequent disposal of instruments and batteries

Call waiting, morning alarm, short code dialling are available free of cost.

Incoming call can be transferred to mobile also when there is need

Parallel connection facility is available i.e. some connection can be used by different members of the family in different rooms.

Ring tones are loud enough to attract attention.

Calling Line Identification based up internet facility with mail box is available at nominal charges, just by registering on website.

Prepaid service is available.

Many options for bill payment viz., BSNL office, Post Offices, Corporation bank branches and Electronic Clearing System (ECS).

Voluntary deposit scheme, online through website, selected Public Call Office (PCO) and credit card swapping facilities exist with the land lines.

Annual tariff plans are available with a discount of two months

Intelligent Network services viz., tele-voting, free phone, Indian telephone card, universal access number are available.
Free level – 1 emergency services viz., 100, 101, 102, 108 etc. can be availed of
Safe custody of one’s jewellery and documents is available at nominal rates for
land line and zero rentals for broad band.
There are no shifting charges even for an all India shift.
Hotline facility is available.
Moreover, many companies use the telephone bill as the address proof.\textsuperscript{91}

4.3 SCHEMES FOR BSNL LANDLINE

The following schemes are offered by BSNL for its land line subscribers

4.3.1 New Telephone Connection

BSNL offers telephone connections in the following main categories to it's subscribers:

4.3.1.1 Permanent Connections

Permanent connections are available on demand in the majority of the exchanges.
The connections are provided subject to technical feasibility and the genuineness of the
applicant. It is available in the following six categories to suit different subscribers.

4.3.1.1.1 Non OYT General

This scheme is open to all. In this scheme an initial deposit carries interest up to
the date of provision of telephone for every completed calendar month.

4.3.1.1.2 Non OYT Special

This scheme is allotted to the professional people namely, doctors, advocates,
eminent persons of state, national or international recognition, public institutions,

registered new agencies, government schools, colleges, social organisations, disabled soldiers, senior citizens and ex service men.

4.3.1.1.3 OYT General

This scheme is open to all the applicants on payment of initial OYT deposit and a rebate in the monthly or bi monthly bill is allowed.

4.3.1.1.4 OYT Special

This scheme is allotted to manufacturers of exportable goods, individual and organisations government department and statutory bodies.

4.3.1.1.5 OYT SWS (Swatantra Senani)

This scheme is allotted to freedom fighters or widows of freedom fighters subject to the condition prescribed for this category. Installation and registration charges are waived and fifty percent concession on all rentals is allowed.

4.3.1.1.6 Tatkal Scheme

This scheme is given highest priority. Under this scheme new telephone connection is provided within two weeks after payment of non interest bearing deposit of Rs.30,000. Application is submitted along with initial deposit of Rs.1,000 and the remaining Rs.29,000 is collected only if telephone connection is technically feasible. If connection is technically not feasible, initial deposit Rs.1,000 will be refunded. Normal rent for the land line is allowed. It is not eligible for third party transfer during first three years.

4.3.1.2 Temporary connections
Temporary connections are provided for short period for emergency purposes and when the requirements are purely temporary in nature. Temporary connections are to be provided for a maximum period of three months at a time in the case of private individuals and six months at a time in the case of government officers. The charges for the entire period along with security deposit, installation charges and rentals will be collected in advance.

4.3.1.3 Casual Connections

Casual connections are provided to applicants for social/religious functions, marriages, exhibitions and the like for a period not exceeding 30 days.

4.4. RURAL /URBAN TELEPHONE TARIFF

For special plans in telecom circles:

a) BSNL Landline Tariff Card (Rental, security deposit, Subscriber Trunk Dialling pulse rate, free calls and the like).

b) Unlimited and concessional Virtual Private Network packages between BSNL fixed and BSNL cellular service.

c) International Subscriber Dial (ISD) Tariff Plans

d) Long Distance Connections

e) Temporary Connections and Extensions

f) Manual Trunk Calls

g) Private Exchange and Private Branch Exchanges

h) Operator Assisted International Calls
i) Public Telephone

j) Other Charges

Transfer Fees is charged when the telephone transfer from one place to another place. The shifting charges are applicable when the telephone is shifted from one city to another.

4.5 BSNL-SULABH SCHEME

For those customers who use their wire line for incoming calls only, BSNL has a tariff plan known as “SULABH PLAN”. In this plan, outgoing calls can be made by the customer through Indian Telephone Card. In addition to the use of Indian Telephone Card for making outgoing calls, customer may be allowed facilities of outgoing calls and internet calls, if he so desires. In this case charges for outgoing calls will be @ Rs.1.20 per call. However to avail this outgoing call facility, the customer would be required to deposit an annual rental as per the prevailing rules.

4.6 BILLING SCHEMES

4.6.1 Electronic Clearing System (ECS)

BSNL is ahead in providing new facilities to the customer. A new ECS Scheme was introduce to allow payment of bills without standing in “Queue” and also provide one per cent discount on bill payment. In this way, the customer will be doubly benefited from the new ECS scheme.

Additionally, in the interest of the customer, the telephone bill amount will be withdrawn from their bank account on the last day of payment of the bill. Thus, they can
well plan for and arrange the bill amount to be debited from their bank account without any inconvenience. Mandate form for this facility can be collected from the Telephone Bills Collection Centres or the Office of the Accounts Officer Telecom Revenue. To avail this new ECS scheme, it is necessary for the customers, to ensure payment of all outstanding bills, if any before submitting the mandate form. This scheme/facility is however, not open for BSNL corporate billing scheme customers.

4.6.2 Group Billing Scheme in bfone

If a person is having more than five telephones working in his name / organizations Partnership firms / Group of Companies and if the consolidated usage charge for these is above Rs. 1,00,000/- per month he can register under this scheme and get single consolidated bill and make payment by a single cheque. He will also get itemized bills for all phones under this scheme. He can also get five percent discount on monthly bills above Rs. 1,00,000/- and 10 percent discount on monthly bills above Rs. 2,00,000/-.

4.6.3 Voluntary Deposit Scheme

Customer depositing a sum of money voluntarily for paying his telephone bill is called voluntary deposit scheme. Under this scheme, the customer earns nine per cent interest per annum on his deposited amount. Customers need not go BSNL office for bill payment. No fear of disconnection of late payment. Telephone bill amount for every month will be deducted from the deposited amount. Minimum amount of voluntary deposit amount qualifying for interest under the scheme should not be less than the average bill amount per month of previous six months multiplied by 6. Maximum amount of voluntary deposit qualifying for interest under the scheme should not be more than the
average bill amount per month of previous six months multiplies by 12. Customers have to contact the concerned account officer in their area.

4.7 FIXED LINE PRE-PAID TELEPHONE (FLPP)

FLPP (Fixed Line Pre-Paid) Service enables a subscriber to make calls from a prepaid account linked to his telephone number. Unlike the prepaid card 'International Technology Communication' service, where the authentication is done every time through a 16-digit Personal Identification Number (PIN) the authentication of FLPP is linked to his telephone line and the user is not required to dial the Account number/ PIN for authentication making it simpler to use.\textsuperscript{92}

4.8 TELEPHONE FACILITIES

The following are different types of telephone facilities offered by BSNL.

4.8.1 Phone Plus Services

With the aid of state-of-the-art digital exchanges, BSNL offers to its customers a host of phone varieties plus services, converting the old basic telephones to a sophisticated tool which can be used for a variety of applications. All the Phone Plus facilities are available free of cost. The facilities available under this service are mentioned below:

4.8.1.1 Call Waiting

\textsuperscript{92} Available at: www.Bsnlteleservices.com
The subscriber can receive incoming calls even when his telephone is busy. He will get a short duration beep—beep tone when users are busy talking, indicating that another call is waiting for us, provided this facility has been activated. We can talk to any one of the callers keeping the other waiting. Complete secrecy of communication between the two callers is maintained.

4.8.1.2 Abbreviated Dialling

Users may be calling a few people very frequently. It is possible to program these numbers as abbreviated codes of one or two digits. A maximum of 20 numbers can be programmed for abbreviated dialling. It is ideal for STD/ISD.

4.8.1.3 Hot Line

Users may want to be connected directly to a pre-determined number as soon as they lift the hand set even without dialling. At the same time users may want to have the flexibility to dial any other number of their choice. It is possible to have this facility in the digital exchanges by the delayed hotline feature. The number of users’ choice can be programmed by the exchange staff on request. After doing so if users lift the telephone and do not dial within five seconds, they will be automatically connected to the programmed number. However if the user starts dialling within five seconds, he can make an outgoing call as usual.

4.8.1.4 Call Transfer (Call Forward)

Useful for very mobile persons who may not want to miss the incoming calls. Using this facility calls can be forwarded to another telephone number designated.

4.8.1.5 Automatic Wake-Up/Reminder Call Service
When users want to be reminded at a specific time, they have to call the exchange and request the time at which he wants to be reminded. The facility allows the exchange to initiate a call automatically at a fixed time specified by the user of the telephone.

**4.8.1.6 Number/Call Hunting Service**

If the called line is engaged, the caller will have to disconnect and dial other line(s). This facility automatically transfers the incoming call to whichever line is free. If users have more than one telephone line, this facility is very helpful to them.

**4.8.1.7 Calling Line Identification Presentation (CLIP)**

The subscriber has to buy separately the CLIP display device from the market. Using this facility the user can see the number of the calling party before lifting his telephone. It is very useful to trace malicious caller if any. However, the CLIP instrument shall have to be procured and installed by the users themselves.

**4.8.1.8 Calling Line Identification (CLI) Announcement Service**

By dialling 164 the user can listen to the number of the phone line that he had made a call earlier. It is very useful when in doubt about the phone number.

**4.8.1.9 Phone Bell Check**

Dialling number 161 and replacing the hand set after few seconds the user can hear the phone ring. It is useful for checking functioning or adjusting volume of bell of the customer’s phone.

**4.8.2 Electronic Locking for STD/ISD**
For 100 per cent protection against improper use, the subscriber can lock his telephone electronically. Here, he only knows the secret code. He can lock/allow local, STD or ISD calls in many ways viz.. all calls allowed, only local calls allowed, only STD, local calls allowed, and all outgoing calls barred and the like.

4.8.3 Call Conferencing

With this service a telephonic conference can be set up within three or more parties. This service is available to the users subject to technical feasibility.

4.8.4 Shifting of Telephones

Shifts are of the following types:

- Within the same exchange area
- From one exchange area to another exchange area in multi-exchange areas and
- All India Shift

4.8.4.1 Shifts within Same Telephone System

Within the same exchange area customer can shift the telephone at any time if the telephone had worked at least for 18 months in respect of NON-OYT connections and six months in respect of OYT connections in the original exchange area or the date of registration for the connection to be shifted is prior to the release date of new lines of the specific category in the required exchange

4.8.4.2 Shifts on All India Basis

Shifts on all India basis is permissible if the telephone had worked for at least eighteen months in respect of NON-OYT connection and six months in respect of OYT connection in the original exchange area or the date of registration for the connection to
be shifted is prior to the release date of new lines of the specific category in the required exchange.

4.8.5 Safe Custody Plan for Landline Services

Customers, who do not intend to use their landline connection for more than three months period and want to ensure that their line is not misused in their absence, can avail the Safe Custody Plan at very nominal charges.

The safe custody charges will be Rs. 50/- per month for urban areas and Rs. 30/- per month for rural areas. The charges will have to be paid in advance. The phone connection will be disabled for the period of safe custody. But the telephone number will be retained and will be restored after the period of safe custody on the request of customer. The minimum period of safe custody will be three months.

4.8.5.1 Transfer of Telephone

Telephone transfer can be done in the following situations:

- **General Transfer**
- **Transfer on All India Basis**
- **Third Party Transfers**

4.8.5.2 General Transfer

Transfer of telephones is permissible under any category in the following cases:

It can be transferred on the death of hirer according to his/her will. In the absence of a will, transfer is permitted to the widow/ widower, children / legal successors. Also transfer is permissible when the name of the subscriber is changed. Transfer is allowed
when Amalgamation /take over of registered companies take place. It is also permissible when the change in name of the company from private limited to public limited and vice versa or otherwise. The phone can be changed to the name of the employee from the employer of a limited company under certain circumstances. When a proprietary concern becoming a partnership firm changes are allowed. It can be transferred from a sole proprietor to proprietary concern and vice versa. When a foreigner who is employed in a company changes to another institution it is possible to transfer the phone or when he leaves the country. When the number of partners in a firm increases or when a firm is sold or dissolved or when a partnership concern acquires new business or adds new companies changes are allowed. Transfer of phones can be possible to close blood relations like mother, father, sister, brother, husband, wife, son, daughter etc.

4.8.5.3 Transfer of Registration on All India Bases

Transfer of registration of telephones under Non-OYT, OYT and special categories on all India bases is permitted in metered exchange areas.

The applicant has to apply on a plain paper giving the details of registration and category of the plan. Processing charges will be collected when the transfer is requested from lower to higher registration fee areas. No processing charges are collected when the transfer is requested to the same registration fee area or from higher to lower registration fee areas. At the old station, the registration fee will be refunded without interest. At the new station, the applicant has to deposit the registration fee applicable to the new station and non refundable processing charges. The registration transfer certificate issued at the old station is to be submitted to the new station along with application for registration on the prescribed application form within thirty days of the issue. Interest on registration
amount at the time of release of connection at the new station will be calculated from the date of original registration.

### 4.8.5.4 Third Party Transfers

A third party can be added to an existing call under the following conditions:

Third party transfers of telephones are provided under Non OYT-General, OYT, and Non OYT-Special category. The transfer is permitted to any person; firm or company after the first bill had been paid without any restriction of lock in period. No transfer fee is liable to be charged. The security deposit, if any, shall be refunded to the transferor after deduction of outstanding dues. For telephones provided under Non-OYT (General) /Non-OYT-Special scheme, the transferee shall make payment of advance annual rental and bi-monthly rental as applicable to telephone provided under General Category. The transferee will, however, be liable to pay any outstanding dues even after the transfer of telephone to him. In case of transfer of telephone provided under special category, the transferor shall not be given any new connection under Special Category for a period of two years from the date of transfer. Special category telephone on third party transfer will be converted to General category telephone\(^{93}\).

### 4.9 INTELLIGENT NETWORK SERVICES

Intelligent Network (IN) is a telephone network architecture originated by Bell Communications Research (Bellcore) in which the service logic for a call is located separately from the switching facilities, allowing services to be added or changed without

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\(^{93}\) Available at: [www.bsnl.co.in](http://www.bsnl.co.in)
having to redesign switching equipment. The following intelligence network services are provided by BSNL.\textsuperscript{94}

4.9.1 Universal Access Number Service

A call to a service subscriber will be paid by the calling party or split between the calling and called party. Service is accessible from networks of other operators also with an 11 digit number 1860-XYZ-ABCD. There are two types of UAN Services offered to customers.

4.9.1.1 Universal Access Number Subscribers

This advanced feature offers a bundled solution that can help an organization to track calls; route calls based on the organization's needs, and safeguard their traffic against long-term service interruptions. Moreover these also help in reducing the overall expenditure significantly on customer support services.

4.9.1.2 Single All India Number

It is a single 11 digit number accessible throughout India including other operator’s network. No STD facility is required to access the service.

4.9.2 Time of Day/Time Interval Routing

It allows organizations to route calls to different answering locations, depending on the time of day. For example, if the customer service department is closed, the user can route callers to alternate location.

4.9.2.1 Day of the Week Routing

Calls can be routed not only as per the time of the day but also as per the type of the day.

4.9.2.2 Origin Dependent Routing

Calls can be routed to set of destinations based on the origin of the call.

4.9.2.3 Call distribution

It allows the organization to route calls based on staffing levels. If one location is short-staffed, the calls can be split such that these calls to go to two or more answering locations. The call split is based on a percentage distribution that the user designates.

4.9.2.4 Line Hunting

It allows organization to have one or more installations where the call may be answered.

4.9.2.5 Call limiter

Call limiter restricts maximum number of simultaneous calls and this helps organization to dimension resources

4.9.2.6 Call Queuing

It enables calls meeting busy condition or reaching call limiter to be placed in a queue and as soon as free condition is detected the call is answered

4.9.2.7 Condition based routing

Calls at the destination can be re-routed to a different destination number in the following conditions (1) Busy (2) No Answer (3) Reached call limiter.

4.9.2.8 Interactive Voice Response

The IVR routes calls to the appropriate person or department based on keypad inputs selected from the menu options as defined by the service subscriber.
4.9.2.9 Black and White List

It allows the organization to selectively block incoming calls from specific originating areas. In this way, the organization can shape the area of toll-free/UAN coverage to match its potential callers and also save on the cost of handling unnecessary calls.

4.9.2.10 Incoming Grey list

When a calling line is added to the grey list, a PIN is associated with it. When a caller from grey list accesses the service, he is asked the PIN for authentication.

4.9.2.11 Detailed Bill

Details of calls which are received are provided. This helps organization in marketing and business planning.

4.9.2.12 Prepaid Virtual Calling Card (VCC)

This prepaid card enables the user to make local, STD or ISD calls even from a Local/ STD/ISD barred telephone/mobile. This card purchased in one city can be used in any other city from BSNL landline/WLL/Mobile. The calls are charged to the secret number specified in the card and not to the telephone connection being used. There will not be any free calls. There are no registration charges for this service. Any detailed bill, if asked by the card holder, having a subscriber account no. and PIN, will be given on payment of Rs. 100/-. 

4.9.3 Toll Free Service

This service shows that in charging a call to a service subscriber, it will be paid by the called party. All charges are levied on the service subscriber. The service is free of any charge to the calling user. Service is accessible from networks also.
4.9.4 Voice Virtual Private Network Services (Voice VPN)

The voice VPN is that they provide connectivity between two or more places using a previously established, shared network infrastructure rather than having to deploy new, dedicated hardware specifically for this purpose. Combined voice VPN can be provided to fixed line telephones of BSNL/MTNL and BSNL mobile. Use this service by dialling short codes to have a private network using public network resources. This service brings down telephone bills due to special package tariff for calls within a VPN 11 digit number 1801-XYZ-ABCD

4.9.4.1 Multi-site Organization

It has many sites belonging to one single VPN network where the site can be located at different physical location in the world.

4.9.4.2 Short Group Numbers

These are public directory numbers which are not a part of VPN Network but are given a short number which is defined at Company level.

4.9.4.3 Date and Time Screening

Date and time slices are available for incoming/ outgoing calls where VPN users are allowed to make/receive calls.

4.9.4.4 Exception List

They are the lists which contain the numbers which are not allowed for incoming & outgoing calls.

4.9.4.5 Call Duration Control
Threshold can be set for accumulated incoming/outgoing calls.

4.9.4.6 Multiple Account Codes

This feature allows the company users of a given VPN group to mark their calls according to their business so that subscribing companies receive a bill, which details the cost of communication according to the company activities and the company organization.

4.9.4.7 Dual Invoicing

This is the ability to bill calls made by a given company member either on the corporate account or on the VPN member’s personal account. Call forwarding from one VPN number to another number is also possible in this mode.

4.9.4.8 Hunting List

A series of numbers may be defined in hunting list for incoming calls per VPN user.

4.9.4.9 Substitution

This feature allows mobility of VPN user in their company by providing the VPN access from the handset of any other VPN user of that group.

4.9.4.10 Preferred External Destination (PED)

If there exists a number which is not a part of VPN network but is frequently called then it can be defined as PED in the network at a particular site. No call charges are made for management functions.

4.9.5 Tele voting Service

It is a unique service used in collecting public opinion. A customer, who wishes to vote, can dial the specific voting number to register his vote of choice. Tele voting is
possible from STD barred phones also. Tele voting is a more cost-effective method of
democratic deliberation as it does not require the participants/voter to meet in person.

4.9.6 India Telephone Card (ITC)

India Telephone Card (ITC) or Virtual Card Calling (VCC) uses Intelligent
Network services by which a subscriber can make calls from any normal telephone
connection to any destination number and have the cost of these charged to the account of
particular ITC, without any charge on calling or called line. This service is available from
local Public Call Office (PCO) also. With the help of this card STD/ISD calls can also be
made from the telephones whose STD/ISD is barred. ITC card purchased in one city can
be used in any other city where this service is available. ITC card can also be used from
BSNLWLL & Cell One connections.\(^95\)

4.9.7 Premium Rate Service (PRM)

This is a service that can be accessed by telephone subscribers all over the country
on new Intelligent Network platform. The PRM service will facilitate service providers to
offer services like forecast, future, share market, job consultation etc. The service
provider is allotted a PRM service number (viz., 1867-XYZ-ABCD) by the network
operator (BSNL) and that number can be accessed from any point in the network. For this
service, call charges will be at a higher rate (these charges will be borne by calling users)
i.e. premium rate and the revenue earned is shared between service provider (receiver of
call) and network provider (BSNL). For the same PRM service number, the subscriber
can have a number of destination numbers.

\(^95\)“Know Your BSNL A Customer Hand Book BSNL Mobile Services”, Tamil Nadu Telecom Circle,
4.9.8 Account Calling Card (ACC)

This service is for those who want to have a permanent account with BSNL. This is similar to India Telephone Card. The main difference from ITC/VCC card is that in 16-digit confidential no. (i.e. password for the use of account and making a call) subscriber can change last four digits any time as per his/her choice just by dialling from any telephone.

4.9.9 Universal Personal Number (UPN)

A subscriber to this service can receive or make calls using his Universal Personal Number from any BSNL phone. The subscriber will be given some management codes and password. Using them he can convert/reconvert any BSNL phone into his Universal Personal Number. All the calls made by subscriber using his UPN will be billed at his UPN by the IN Platform. The subscriber will be able to get all his calls incoming on the UPN number anywhere in India.96

4.10 BSNL MOBILE

India's fastest growing BSNL Mobile sector (Post paid and Pre paid) had brought cellular telephony to the masses, through innovative technology and strategic pricing. This ambitious service uses state-of-the-art GSM technology to attain global excellence and leadership in business. BSNL entry into this sector had brought Global System of

Mobile (GSM) cellular service at an affordable cost to the common man. They serve a single objective, to provide better communication to millions across India.  

BSNL mobile is a mobile phone service provided by the Indian public enterprise BSNL. It provides both pre-paid and post-paid mobile services as well as many value added services. BSNL mobile has pan-India presence with presence in all the 21 telecommunication cellular circles in India. BSNL mobile is available all over India with roaming access, including Delhi and Mumbai, and International roaming access to more than 300 networks across the world. Many private telecom operators had entered the Indian market and acquired many customers and have given stiff competition to Cell One in recent years. The major private players are Bharti Airtel, Reliance Communications, Tata Communications, Aircel and many more. Cell One started their Global Packet Radio System /Enhanced Data GSM Environment (EDGE) service in 2005 and has coverage of major cities and towns. BSNL has now introduced 3G services: BSNL has started its 3G services before the allocation of spectrum to private operators in India.

4.10.1 Advantages of BSNL mobile

The following are the benefits derived from BSNL mobile.

- All major towns and cities are covered through the BSNL mobile network.
- All major national and state highways are covered with national and international SMS facility.
- International roaming is available for more than 300 networks across the world.
- There is facility for roaming with one number across the country.

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97 Available at: www.cellone.in
98 Available at: en.wikipedia.org/wiki/bsnl_mobile
• There are appropriate and reasonable tariff packages to suit every pocket and absolute transparency in billing. All regular features of cellular telephony, such as SMS as well as advanced features like MMS are available.

• BSNL has 24 hour helpline all across the country.

• BSNL is the only mobile service available throughout the country including Jammu and Kashmir, North Eastern states like Arunachal Pradesh, Nagaland and Mizoram.⁹⁹

4.10.2 Post paid and Pre paid

BSNL GSM cellular mobile service Cell One has a customer base of over 5.2 million. BSNL mobile provides all the services like MMS, GPRS, Voice Mail, E-mail, Short Message Service (SMS) both national and international, unified messaging service (send and receive e-mails) and the like. The subscriber can use BSNL mobile in over 160 countries worldwide and in 270 cellular networks and over 1000 cities/towns across India. It has got coverage in all national and state highways and train routes. BSNL mobile offers all India roaming facility to both pre-paid and post-paid customers (including Mumbai and Delhi). Table 4.1 discloses various plans of GSM post paid and prepaid.

TABLE 4.1

Plans of GSM Post Paid & Pre Paid as on April 2012

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Name of the Post Paid Plans</th>
<th>S.No.</th>
<th>Name of the Prepaid Plans</th>
</tr>
</thead>
<tbody>
<tr>
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<td>Plan - 99</td>
<td>1</td>
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<td>Plan - 175</td>
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<td>Anbu Jodi</td>
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<tr>
<td>6</td>
<td>Plan - 725</td>
<td>6</td>
<td>Student Special</td>
</tr>
<tr>
<td>7</td>
<td>Plan - 1500</td>
<td>7</td>
<td>Jai Jawan</td>
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<tr>
<td>8</td>
<td></td>
<td>8</td>
<td>Roam Free</td>
</tr>
<tr>
<td>9</td>
<td></td>
<td>9</td>
<td>New Nesam Special</td>
</tr>
</tbody>
</table>

Source: www.tamilnadu.bsnl.co.in

It could be seen from the above table that BSNL has seven different post paid plans and nine different prepaid plans for its subscribers.

4.10.3 Services for BSNL Mobile

BSNL provides the services like entertainment, devotional, call management service and my forte. They are detailed in Table 4.2.
<table>
<thead>
<tr>
<th>Entertainment</th>
<th>Devotional</th>
<th>Cell Management Service</th>
<th>My Forte</th>
</tr>
</thead>
<tbody>
<tr>
<td>nexGTv</td>
<td>Live Arti</td>
<td>Phone Backup</td>
<td>Life Style</td>
</tr>
<tr>
<td>Mobile TV</td>
<td>Religion &amp; Devotional</td>
<td>Remote Access to PC</td>
<td>Humshakal</td>
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<tr>
<td>Mobile Radio</td>
<td>Sports</td>
<td>VVoBB Service</td>
<td>Love</td>
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<tr>
<td>Dial a TV</td>
<td>Games</td>
<td>Bharat Berry</td>
<td>Marriage &amp;</td>
</tr>
<tr>
<td>3G Portal</td>
<td>Sports</td>
<td>Finance</td>
<td>Relationship</td>
</tr>
<tr>
<td>Live Sharing</td>
<td>News &amp; Updates</td>
<td>Share &amp; Stocks</td>
<td>Cookery</td>
</tr>
<tr>
<td>Video SMS</td>
<td>Email on SMS</td>
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<td>Literary</td>
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<tr>
<td>Dial a Video</td>
<td>News &amp; Updates</td>
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<td>Voice Chat</td>
<td>Job</td>
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<td>Jokes</td>
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<td>Trivia</td>
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<td>Filmy Dunia</td>
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<td>Shayari</td>
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<tr>
<td>Comics</td>
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</tr>
</tbody>
</table>

Source: www.tamilnadu.bsnl.co.in
4.11 WIRELESS APPLICATION PROTOCOL (WAP)

WAP is the mobile internet surfing counterpart of 'http'. A WAP browser provides all of the basic services of a computer based web browser but simplified to operate within the restrictions of a mobile phone, with a smaller view screen.

4.11.1 WAP Portal

It is a portal which works on WAP and has all the functionality and utility of a web site. The only difference is that it is available on mobile phones. It is a web site whose appearance is customized to make it appear good to the mobile users and can fit into the small mobile screen.

4.11.2 BSNL Live

'BSNL Live' is a WAP Portal which offers one stop shop for all Information, Entertainment, and Communication related requirements. Through 'BSNL Live' the subscriber can watch LIVE TV (Hello TV) and movies on the mobile, download exciting Videos clips games, songs, thousands of applications and personalize your mobile phone with wallpapers and ringtones of the customer’s choice.

4.11.2.1 Services of BSNL Live

It provides a variety of services to suit user’s every day mood. To name a few following services are offered.

4.11.2.2 APPS Store
Apps Store service provides thousands of applications, utilities, games and themes for all BSNL Mobile (2G/2.5G/3G) customers to purchase and download applications for use on their handsets.

4.11.2.3 Hello TV

Watch HELLO TV is a Live TV service which offers more than 50 channels on users mobile. This service is available for both 2G and 3G users with compatible handsets. With HELLO TV one can watch Live TV on users mobile anywhere anytime.

4.11.2.4 Movies

Movies can be streamed on demand i.e. the content is played in real time on users mobile from 'BSNL Live' directly without first getting stored.

4.11.2.5 Videos

Video clips of 3-5 minutes (approx.) on an average are available on demand. Users can choose videos and download from the available huge library of content at 'BSNL Live'. The categories of content varies from astrology, recipes/ cookery, entertainment, cricket to beauty tips/ clips, comics/ animation, Movies and Movie trailers, Music, Multimedia games and wallpapers, and on other different tones/tunes . In addition to the above more and more categories of video clips will be added to suit every taste and choice.

4.11.2.6 Music
Users can download thousands of full track audio songs (mp3) of their choice through 'BSNL Live'.

4.11.2.7 Games

Various categories of games viz. Regular (Simple & premium) and multiplayer branded games are available. The user will be able to see only games which are compatible with their handsets. At the time of downloading the user will be required to pay charges for the games. Access to above services is recommended for 3G Subscribers for better experience but other content viz. Wallpapers, Themes, Screen-savers, Ringtones etc. can be used/downloaded by all the GSM subscribers.

4.11.3 Blackout Days

As per Telecom Regulatory Authority of India (TRAI) directives, five days in a year shall be declared as blackout days. BSNL had declared the following five days as black out days for the year 2013. No concessional tariff on voice calls or SMS will be available on these days. The normal tariff as per plan will be applicable.100

1. New Years Eve (31st December)
2. New Year Day (1st January)
3. Valentine day
4. Diwali
5. Christmas day.

4.11.4 Mobile Phone Backup

Mobile Phone Backup is a service that safeguards all the data of users’ mobile phone including contacts, calendar, SMS, photos, videos and music. The Mobile Phone Backup service copies users’ mobile phone data in a secure manner to operator’s secure Mobile Phone Backup system, and also enables users to restore the saved data on their phone (New / Existing) whenever he changes his phone or in case he loses the data accidentally. The user can save the following categories of data depending on their phone model. Mobile Phone Backup service can be used from users pre-paid as well as users’ post-paid connection.

4.12 INTERNATIONAL ROAMING

Presently international roaming facility is not available for the pre-paid consumers. To avail international roaming facility pre paid consumers are required to subscribe for post-paid Connection of BSNL. His existing pre-paid number can be converted into a post-paid number. Post paid customers have to approach the nearest Customer Service Centre with a written request to get international roaming facility. After a feasible report is received by CSC One time security deposit of INR 5000/- [refundable] and INR 99/- per month will be charged in addition to the international roaming usage. A special international roaming SIM will be issued by swapping the current SIM available with the customer. International roaming facility is available for post paid subscribers for more than 300 networks across the globe.\(^{101}\)

4.13 BSNL CDMA EVDO DATA SERVICE

\(^{101}\) Available at: www.ir.bsnl.co.in
BSNL brings to its customers’ wireless data service with CDMA 2000 1X & EVDO technology. A customer can avail these services by using USB or PCMCIA type data card. The data card (EVDO/CDMA 1X) allows accesses to the high speed internet without a need of landline. The subscriber can use the services while on move. The service is available PAN India (except Delhi & Mumbai). Data services are available in prepaid as well as post paid. BSNL offers two types of data services on CDMA technology.

4.14 UNIFIED MESSAGING SERVICE ON MOBILE

The UMS system can be categorized as per the under mentioned functionality:

4.14.1 Voice-Mail

Using this feature, the voice messages can be sent/received to/by other subscribers having this facility. The incoming voice message from the mailbox can be accessed as per some procedure.

4.14.2 FAX Message

This feature will enable the subscriber to send/receive fax messages. The fax can be sent/received to/by the subscriber either through BSNL UMN account or using fax machine.

4.14.3 E-mail

This feature will enable the subscriber to send/receive E-mail messages. The subscriber has to get BSNL UMN account for this feature. The under mentioned procedure is to be adopted for sending/receiving the email.
4.14.4 E-mail to Speech (ETS)

This feature will enable the subscriber to listen the Email on the mobile phone.

4.15 FLEET TRACKING MANAGEMENT SYSTEM

An innovative on-line tracking system powered by BSNL to manage fleets comprising of trucks, car carriers, trailers, tankers, containers or vehicles moving hazardous and specialty explosive chemicals and the like. The e Track vehicle tracking system uses vehicle-mounted microprocessor-controlled device, which sends periodic messages from the vehicle to a network command centre through SMS/GPRS. The received data is authenticated and forwarded to an application server, which provides tracking information through the Internet. Customers are provided a user name and password to access the fleet information on line. The user also has options to receive tracking information via e-mail, fax or SMS besides the facility of calling the customer support team on a toll-free telephone line.

4.16 LOCATION BASED SERVICE (LBS)

A location-based service is a software application for the Internet Protocol-capable mobile device that requires knowledge about where the mobile device is located. Location-based services can be query-based and provide the end user with useful information.

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4.16.1 Resource Tracking and Management Service (RTMS)

RTMS is real-time tracking, management and communication system with field employees and fleet drivers of a company equipped with mobile phones and in-vehicle units. Very useful for transport, logistics and corporate employee workforce management. This service can be used over Web/SMS.

4.16.2 People Finder Service (PFS)

This scheme is for mobile users to locate, monitor and communicate with their buddies. It enables users to add location dimension and content to their personal communication. Mobile users create buddy list and groups. Locate, monitor and communicate among friends, family and employees. They can send SMS and MMS messages to buddies in a simple manner. This service can be used over Web/WAP/SMS.

4.16.3 Advertisement

This is a location based SMS promotions and advertisement Service. This service broadcasts advertisements as SMS messages to subscribers within a defined geographical region. The service is free-of-charge for the subscriber to use.

4.16.4 Chatting

Chatting provides an "SMS chat" service to the subscribers who would like to communicate or meet based on their current location. They can specify the distance (Km)
and Duration (Hour) within which they want to find their buddy to chat. It enables to meet with people of the same interests. The subscriber provides personal profile information (gender, interests, nickname, and the like). The Chatting service can be accessed through SMS, WAP and WEB.

### 4.17 IP TV AND VIDEO ON DEMAND

BSNL has launched Multi play Services for its Broadband Customers to provide nearly 100 numbers of TV Channels and Video on Demand Services. Initially two services namely IPTV and Video on Demand have been launched. IPTV service will make available to the customers to watch many TV channels over broadband connectivity which is similar to what is being provided by cable operator and the DTH services providers. The Video on Demand Services (VoD) are basically meant for the customers who would like to watch the movies/shows on their TV/Computer through broadband connectivity. Any Broadband Customer of BSNL can avail these services by purchasing/hiring a Set Top Box.103

Various Services which can be availed through ‘Multi Play’ are

- Telephone
- TV
- High Speed Internet

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- Video on Demand.

### 4.18 WEB HOSTING SERVICE

BSNL has built up multi-terabyte storage for offering web hosting services to its customers. Web Hosting services are available for all users, ranging from home users who wish to establish their web presence to corporate houses with high-end hosting requirements. The data centre is equipped with fast servers on powerful and robust hardware and sizeable amount of internet bandwidth. By hosting their web pages/ website on the web servers of BSNL, the customer is assured of superior bandwidth infrastructure ensuring faster connections, high availability, Backup, round the clock monitoring, high level security such as firewall, IDS and Antivirus.

Web hosting services are more advantageous because the physical location of the web server does not reside at the consumer’s premises and the customer effectively transfers responsibility for maintaining his website to BSNL. The administrative control of the website remains with the customer, though the website is in the BSNL server.

#### 4.18.1 Web Messaging Service

BSNL provides message hosting services for its corporate users to allow them to have full control over their corporate communication. The scheme aims to provide custom branding coupled with feature rich, secure and efficient messaging service which can be used by the corporate employees.
4.18.2 Web Co-Location Service

Web Co-location is an easy and cost effective solution to house a company's powerful infrastructure without losing the administrative control on the equipments. Web Co-location eliminates much of the Infrastructure costs as well as the maintenance cost of such equipments apart from avoiding the last mile problems. Web Co-location provides the infrastructure at a nominal value keeping the customer comfortable and focused in maintaining the Applications /Services of the company. Apart from enjoying the bandwidth and facilities, the customer retains control over his equipment, software and operating system. The customer simply leases the physical space and high-grade, tier one network access from BSNL the hosting provider. Companies of all the sectors can co-locate their servers with the service provider’s network equipment without bothering for maintenance.104

4.19 NET ONE INTERNET SERVICE

Netone is an account free post-paid Internet dial up access based on CLI. It is inbuilt Internet facility on all landline telephone of urban areas & rural areas. CLI based dial up Internet service “Netone” is also available to ISDN customers. It is post paid internet service in which the customer can access the Internet from any BSNL telephone without having an Internet account. The Internet surfing charge is internet usage charge (10 paise per minute for PSTN) plus internet access local telephone charge for

PSTN/ISDN. The Internet usage charges will be charged separately in the telephone bill.105

4.19.1 Direct Internet Access System (DIAS)

DIAS is a Cyber café who use continuous surfing and frequent telephonic conversation. Corporate bodies that require high speed Internet surfing facility with telephone connection. Even any individual can avail this facility that requires Internet surfing continuously as well as telephone conversation simultaneously.

4.19.2 WI-FI Wireless Internet Service

BSNL’s Wi-Fi Services is for providing high-speed wireless Internet access to its customers at convenient public locations called Hot Spots. Hot Spots has been categorized into two type

1. Hot Spot Type A: Type-A Hot Spot are applicable for public utility services like Airports, Railway Stations, Universities & their campus etc.

2. Hot Spot Type B: Type-B Hot Spot are applicable for personal type of services like Hotels, private owned institutes/colleges/libraries/universities & their campuses and the like.106

4.20 MISCELLANEOUS SERVICES

105 Available at: www.bsnl.co.in/opencms/bsnl/BSNL/services/mobile/internet.html
106 www.bsnl.co.in/opencms/bsnl/BSNL/services/broadband/internet_wifi.html
4.20.1 CENTREX (Group Talk) Service on Landline

It is central office based communication service, which integrates all the users’ multi located telephone lines (Existing and New) into a single highly functional communication group with more distinctive features without any additional equipment (like EPABX) at the users’ premises. Highly cost effective, Free Intra Centrex calls, with no worry to select innovative (PBXs) equipment, no risk of obsolescence of technology, no requirement of power supply, no need to waste valuable floor space, no annual maintenance charges they are totally flexible.107

4.20.2 Video Conferencing Service

Video Conferencing service allows multiple participants to converse with each other regardless of their location through the video end-points or personal computers. It involves video and audio communication. It is about connecting people. A video conference subscriber can add two or more video participants in a particular conference. The customers can schedule their video conferences through the web. The video conferencing service can be availed by any user through IP or ISDN interface. The service is available to existing BSNL subscribers only. The Video end-point required for conferencing should be ITU - H.323/H.320 compliant. Any conference scheduled can have both dial-in and dial-out participants on either IP or ISDN. The customer will have to procure the video end-point from the market. Personal computer user can download the software called "PVX" from BSNL's Video Conferencing Portal to avail the video conferencing facility with their web-cam. This software is being made available at BSNL's Video Conferencing Portal.

107 www.bsnl.co.in/opencms/bsnl/BSNL/services/landline/centrex.html
4.20.3 Audio Conferencing Service

Audio conferencing service allows multiple participants to converse with each other regardless of their location through the normal fixed line telephone or cellular phone. An audio conference subscriber can add two or more participants in a particular conference. The customers can schedule their audio conferences through the web or through IVR. The service is available to existing BSNL subscribers only. Any conference scheduled can have both dial-in and dial-out participants. Conference can be scheduled one time or standing. A standing conference is always on. The authorized participants have just to dial in a particular telephone number followed by a password to enter into a conference.

On demand, a conference can be arranged. The chairperson can invite several users one by one in the conference without using the web. He/she has to just dial a number followed by certain number and the called party number for doing a conference call.

4.20.4 Web Conferencing Service

BSNL had launched web conferencing service. The BSNL Web Conferencing service is revolutionary, multipoint, multimedia, desktop based, audio, video and data conferencing service. It is made available on the desktop and enables to conduct virtual meetings with your partners, suppliers, employers and the like. It has the innovative feature such as persistent meeting rooms, which simulates physical room environment wherein authorized users can enter their designated rooms the way do in physical meetings. The users can access the rich features, apart from multi-point, multi-media (audio, video and data) conferencing service. BSNL Web Conferencing service provides
very powerful data conferencing tools to enhance collaboration among users such as sharing of power point presentation, whiteboard, documents, and chat facility amongst the conference participants, which will significantly aid in increasing the effectiveness of your business meetings. BSNL Web Conferencing Service does not require expensive end points. All that one requires are a personal computer, webcam and an ADSL Connection. This service is ideally suited for users at all levels in large corporate houses, Small and medium businesses, SOHOs and quality conscious individuals to enhance collaboration, increase productivity and save costs. This service will be provided using the franchisee's equipment.\textsuperscript{108}

\textbf{4.20.5 BSNL’s Bharatberry}

Bharatberry service allows users to get email pushed to users’ mobile phone from virtually any of users email accounts and perform synchronization of users’ contacts, calendar, notes and tasks etc., across user’s mobile phone and Bharatberry server. To use this service, users should have a mobile phone enabled with GPRS or WIFI or 3G service for internet connectivity.\textsuperscript{109}

\textbf{4.20.6 Security Deposit}

Security deposit is required for Local/STD/ISD facility of new connections. It is non-interest bearing and refundable upon surrender subject to clearance of all dues.

No security deposit is required for Local/STD facility from the following categories.

\textsuperscript{108} BSNL Launches Audio, Video Conferencing Service, UNITED NEWS OF INDIA, New Delhi, March, 2010.

\textsuperscript{109} Available at: http://bsnl.blackberry.com/
1. BSNL employees

2. Existing BSNL subscribers upon request with conditions

3. Employees of Central/State Government and Central Public Sector Undertakings (PSUs)

4. Bank employees who give Electronic Clearance Service (ECS) mandate from their own bank Central/State Government and Central Public Sector Undertakings.

5. Corporate Customers taking minimum five connections in corporate’s name.

4.20.7 Monitoring and ion

BSNL had established “Web based Complaint Monitoring System” to enable the consumers to monitor the status of their complaints. Customers can log in to www.tamilnadu.bsnl.co.in and click on the hyper link BSNL Customer Care Portal for this purpose. BSNL also continues to make available such information to the telephone bills and also publishes it once in six months in the newspapers.

The next chapter presents the perception of the customers regarding the activities of BSNL.

4.21 OFFICIAL VIEW ON THE FUNCTIONING OF BSNL

On a larger canvas it is worthwhile to take note of what the Chairman of BSNL felt about the functioning of BSNL. He had stated that BSNL was once India’s largest integrated telecom player, a company with assets and a network to beat the best in the world. Things have changed now; competition had overtaken it. He had pointed out that BSNL had missed the mobile revolution from 2007-2011 as it did not procure any
additional GSM equipment during this period. Hence the company is bleeding now and unable to match pace with the fast growing industry.

He further said that BSNL was planning to go for an approximately 15 million GSM lines tender and the work is in a very advance stage. But in the last four years, BSNL had slipped from being somewhere at the very top to a company which is now number six in revenue market share. It had been making losses in the past four years and there is a big question mark about its future.

The total revenue of BSNL had been continuously on the decline since few years. BSNL was carved out of the DoT in October 2000 and made into a Corporation. BSNL was supposed to work on commercial lines and compete with the private sector operators. Since BSNL was a Government Department all along, it was a new experience for it to cope up. It became a great disadvantage. Also BSNL had inherited a large legacy of staff. The total workforce with BSNL is around 280,000. According to analysts 1,00,000 work force would have been sufficient to manage the operations of BSNL. About 60 per cent of BSNL’s total revenue is spent towards wage bill. Any business in this world, which is operating in a very hyper competitive scenario, cannot afford 60 per cent of its revenue to go only towards salary bill. No other operator in the world even those which are state-owned would have such a huge wage bill component.

Coupled with this the BSNL had to manage with the new emerging technological innovations, developments that were catching up very fast. BSNL should have separate funds to go in for these capes. Unless and until BSNL goes on renewing its assets it will go on losing the business.
The immediate task of BSNL is towards the rationalizing of the work force. BSNL has a large workforce as it has a large network as well. BSNL is the only pan India operator in its true sense. Most of the staff traditionally was engaged in landline business, which is decreasing. BSNL had found ways and means to redeploy its staff to the extent possible wherever the staffs were of the right aptitude, right attitude and right age profile. BSNL had a large number of customer service centres which were revitalised and BSNL had tried to use its surplus staff in those customer service centres. But the age profile of the workforce is about more than 50 which prohibits the limits to which they can be redeployed and retrained. BSNL is also not averse to the idea of VRS. The biggest hurdle in bringing any VRS scheme would be finance.

BSNL plans to increase its revenues and maintain or reduce operational costs. BSNL can reduce losses only by increasing productivity and improving the top line. Once this is achieved BSNL would be able to manage our expenses efficiently. However, certain expenditures are beyond control. These include employee-related costs and spectrum and license fees. Costs related to energy consumption are also increasing, irrespective of whether diesel or electricity is being used. This is a major expense for BSNL, given its large rural footprint.

There is technology obsolescing and constant need to upgrade networks. BSNL did manage to come into the mobile field although a little delayed because of the late policy decision and even then had a good chunk of the market share. BSNL could not procure any GSM equipment from October 2007 for many years. It is difficult for such a company to survive without innovating itself for four long years.
The Chairman felt that the years 2007 to 2011 were the most happening years in telecom history of the country. BSNL had not just lost four years but lost an era. These four years had been the years when the mobile connections in the country went on increasing in a rampant manner viz., 5 million, then 7 million then 11 million and finally 15 million lines every month. BSNL could not have a big share of this bonanza as it was handicapped with the absence of latest equipment. BSNL had missed that mobile revolution, because of the inability to procure the equipment due to very many reasons.

BSNL has taken a decision that it shall be following in future e-tendering with reverse auction. This will bring transparency in the procurement system. The e-tendering method will be based on vendor financing model and the BSNL need not spend from its finances for any reform.

BSNL will be e-tendering through its auction and bid for the lowest cost tender. BSNL has incumbent vendors in every zone. There is an ease of inter operability and ease coordination. These results into less execution time and less cost per se. This zonal system will have to be followed.

BSNL is investing significantly in all service segments. BSNL will be spending about Rs 40 billion on mobile network expansion. The landline telephone exchanges, which are digital electronic exchanges, are to be converted into Next-Generation Networks (NGNS). BSNL operates 27,000 digital telephone exchanges across the country, of which 26,000 are located in rural areas.

These rural exchanges are largely based on technology provided by the Centre for Development of Telematics (C-DOT). BSNL is partnering with C-DOT to convert these
exchanges into NGNs. The remaining 1,000-odd exchanges are new technology exchanges.

The Chairman further added that in future tenders will be floored on vendor financing method where BSNL need not pay upfront. The next procurement on BSNL’s next expansions network would be of managed capacity, and managed services model. BSNL had the spectrum license. BSNL did not borrow for paying the spectrum fee. It had paid the same from its own internal accruals. BSNL paid Rs 18,000 crores as spectrum fee. Precisely BSNL is facing that impact very dearly for spending so much for updating its technology.

BSNL had rolled out 3G network in largest number of cities compared to any other operator and they had devised new ways to go very aggressively to utilise 3G services, especially data cards. BSNL was the first operator to launch 3G services in its areas of operation. The response has been reasonable. BSNL’s aim is to expand service coverage. This can be achieved by improving 3G-based VAS such as video calling, movie streaming, and education and health services. Globally, VAS is the main revenue source for operators offering 3G services. BSNL is trying to replicate this model. The uptake of 3G services will increase only if the customer feels that innovative VAS is available, which is accessible via 3G only. Further, 3G-based VAS and entertainment-based applications will be crucial for service uptake. These services and the supporting ecosystem need to be developed in a big way in the Indian market. The segment has already witnessed growth. For example, 3G networks are being used in some areas for providing services such as telemedicine, tele-education and e-commerce. However, more companies need to provide these services.
In broadband sector BSNL is the market leader. The broadband is a good revenue source for BSNL. BSNL’s broadband services are so admirable that when people at large think of broadband they think of BSNL only.

BSNL’s performance in the mobile and broadband segments has been satisfactory, but the continuous decline in the wire line subscriber base is a key concern. BSNL is maintaining more than 28,000 rural exchanges, which are not commercially viable – the cost of operating rural exchanges is much higher than the revenues generated from the business.

To compensate for the losses in the fixed line business, BSNL would like to improve broadband revenues by increasing its footprint and by providing a large number of value-added services through this platform. Managing the employee costs is another major issue. However, surviving in a hyper-competitive environment, striving for improved service delivery and increasing sales are challenges that are common to all operators.

BSNL has the capability of providing broadband services across multiple technology platforms. BSNL had landline, through that it is giving DSL. And the experience of broadband on landline is highly qualitative than the wireless. BSNL has got fibre to the home technology already deployed in several cities and the work is going on progressively where again BSNL offers a triple play services to a customer in his home wireless video data on a single fibre. Further BSNL has wireless media, wireless CDMA, e-video cards which are very popular. Strengthening all these sources of revenue BSNL proposes to revitalize and reactivate that stream of revenue. BSNL had
deployed e-video system in almost all the major cities of the country already and it procured sufficient number of data cards. It had rationalized the tariff.

With a market share of over 64 per cent, BSNL is the largest internet service provider in the country. BSNL is providing broadband on wire line (ADSL 2+) and fibre-to-the-home (GPON/GEPON) wireless broadband on the WLL, EVDO, 3G and 4G (WiMax) platforms. BSNL has a presence in almost all district and block headquarters.

To encourage consumers to adopt broadband as a service, the company is bundling computers with broadband services. BSNL is also providing a range of VAS under various schemes. BSNL is offering low broadband tariff plans in rural areas (without any registration fee or advance deposit). The operator is also providing free broadband modems to rural customers in association with the Universal Service Obligation Fund administration.

BSNL has the largest rural footprint. BSNL has covered almost all habitations through village public telephones. Over 4,00,000 villages are availing of Wireless Local Loop (WLL) services and more than 3,50,000 are using GSM services. BSNL offers broadband services in over 1,70,000 villages. However, the provision of these services involves high costs. Moreover, the central government has launched the National Optical Fiber Network project, which aims to connect 250,000 village panchayats. BSNL will play a major role in this project.

The Chairman said that he had constituted a Committee in BSNL to go into the technology issue. The Chairman added that BSNL is pitching for a large share of revenue and continued market leadership in broadband. With the induction of the new GSM
equipment and also by improved performance at every functional level, it will be possible not only to retain the customers but also to acquire new customers.

The Chairman also commented on the Sam Pitroda Committee Report. He felt that it was an excellent report and has put in a very concise and clear manner as to what should be done with BSNL to bring back its past glory. There are many suggestions, many of whom can be implemented by BSNL itself.

One of the recommendations of that Committee was that BSNL should move to the managed capacity and managed services model, which is excellent. Then it has also mentioned about sharing up the telecom resources. BSNL already had started sharing its tower with private operators. Since 2011, BSNL had made its towers accessible to private operators for sharing and significant progress had been made on this front. The company has tied up with most of the leading operators for renting out its mobile tower slots. BSNL had also floated a tender for companies to avail of the high bandwidth available on its network. This can be utilized by other operators for service launch and expansion. The company is planning to monetize other infrastructures like land and buildings to generate additional revenues.

The Chairman had concluded that BSNL is an anchor company. It is operating in a strategic sector. It is wholly owned by the government. All these factors definitely give a very special status to BSNL. Therefore a good health of BSNL is not only is in the interest of BSNL itself, but it is in the larger interest of country as well. There are multiple stakeholders apart from the government, BSNL employees and officers- who are very clearly visible. But what is not visible is that not less than 700-800 if not more