



IMPACT OF REFORMS IN THE TELECOM SECTOR IN INDIA

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ABSTRACT

The process of telecom reforms in Independent India began in the year 1980, with an attractive slogan “Mission Better Communication”. In the year 1984, for the first time, private manufacturing of customer premise equipment was allowed. Until then the Government Department of Telecommunication (DoT) enjoyed the monopoly of manufacturing equipment. In 1986 for better management and easy operations, the DoT gave birth two large Government owned corporate bodies called Mahanagar Telecom Nigam Limited (MTNL) and Videshi Sanchar Nigam Limited (VSNL). The MTNL provide basic services in Mumbai and Delhi to treat differently, VSNL provides overseas long distance services.

INTRODUCTION

In 1989 a Centre for Department of Telemetric (C-DoT) was established which took active part in the installation cheap rural branch exchanges to serve the rural areas. This result during this decade a wide network of ‘Public Call Office’ (PCO) especially to provide local and long distance direct dialing to the largest number of people was undertaken on a large scale across the country through private individual franchises. As a result 140000 of 576000 villages of India had telephone connections by 1990. But these rural connections were of low quality and the wait time for new connection extended from seven to eight years. The charges to get a telephone connection and tariff charged to make a long distance call were the highest in the world. Thus the above reforms failed to contribute the expected returns to the economy.

Reforms-1992

The liberalization of the economy and the announcement of a new economic policy in the year 1991 opened the telecom sector gates to private players.



Telecommunication serves of world class quality were necessary for the success of this policy. Therefore it was inevitable to give the highest priority to the development of the telecommunication sector in the country. Hence the private sector was initially invited to take part in the manufacturing of telephone equipment. The proposal failed to enthuse the entrepreneurs because the telephone equipment market was well established worldwide, the equipment was cheaper and the market was competitive. Policy makers also hold information that private investors were more interested in providing telecom services than manufacturing the equipment.

Therefore in 1992, private sector was allowed to provide basic or value added services such as radio paging and cellular services. The services were licensed on the basis of service areas called circles. They were usually coterminous with state boundaries and administrative units of Department of Telecommunication (DoT) and later those of BSNL. The country was divided into 22 service areas consisting of three metro service areas and 19 state based service areas. As a part of the reforms the sector was further opened for private services provision in the fixed services segment, breaking DoT's monopoly. Two mobile private operators per service area and one fixed line operator were licensed through auctions. The licenses were allocated initially for a period of 10 years, which could be extended by 5 years. In the first round the Delhi and Mumbai metros were auctioned for cellular services. This was followed by Kolkata and Chennai metros and all other service areas for cellular and the fixed line licenses for all the service areas. For cellular services the operators were required to use the GSM standard in the 900 MHz band. For fixed line they were required to use wireless in the local loop.

NTP 1994 and 1999

When telecom reforms were initiated in 1994 there were 3 public sector undertakings (PSUs) in the fixed service sector, namely Department of Telecommunication (DoT), MTNL and VSNL of these, DoT operated in all parts of the country except Delhi and Mumbai. MTNL operated in Delhi and Mumbai and VSNL providing international telephony.

Reforms in the Indian telecom sector have taken place within the frame work of two telecom policy statements, the NTP 1994 and NTP 1999. To govern the activities of the private telecommunication sector and to protect national interest and to further liberalize the sector, the Government of India formulates the National Telecom Policy in the year 1994¹.

This policy defined many important objectives like availability of telephone on demand, provision of widest range of services at reasonable prices, availability of basic telecom services in all the villages, export promotion, FDI attraction and stimulation of domestic investment. The policy also envisaged India's emergence as a major manufacturing and export base of telecom equipment.

The Major Initiatives in telecom reforms in NTP 1994 were ²

1. Opening up of basic telecom services to further competition. After a competitive bidding process, 8 licenses for CMTS in the 4 metro cities of Delhi, Mumbai, Calcutta and Chennai to 8 private companies in November 1994. Subsequently, 34 licenses for 18 Territorial Telecom Circles were also issued to 14 private companies during 1995 to 1998. During this period a maximum of two licenses were granted for CMTS in each service area and these licensees were called 1st & 2nd cellular licensees. These licensees were to pay fixed amount of license fees annually based on the agreed amount during the bidding process. Subsequently, they were permitted to migrate to New Telecom Policy (NTP) 1999 regime wherein they are required to pay License fee based on revenue share, which is effective from 1st August, 1999.
2. For the first time foreign equity participation/FDI is allowed in the sector.
3. The government also decided to set up the Telecom Regulatory Authority of India.
4. Universal Service Obligation (USO) was introduced for the development of telecom sector in rural areas.

NTP of 1994 marked a significant shift in the policy orientation towards telecommunications in that, telecom services were henceforth to be treated not as a luxury item but as necessity that should be available to all. However the policy statement of NTP-1999 was designed with the approach that services should continue to be provided largely by a public sector and all private service providers with supplement the efforts of DoT.

National Telecom Policy 1999

Despite opening of services for private provision there was poor response, several circles did not receive bids and some of the winning bidders did not rollout services claiming that they had bid too high for their operators to be commercially viable, further major targets for NTP 1994 were set without an accurate resource assessment. However Even with the limited operators there was recognition of the potential demand of telecom services. The high license fee and operational bottlenecks had been major deterrents for service deployment, in order to remove these constraints. The Government of India announced the NTP 1999.

The National Telecom Policy of 1999 is considered to be a land mark in the growth of the telecom sector in India. NTP 1999 was announced on march 26th 1999 with the following objectives.

The important objectives of NTP 1999 were:

- To provision of telephony on demand by 2002,
- Achieve a tele density of 7 % by the year 2005 and 15 % by the year 2010
- Increase rural tele density from 0.4 % to 4 % by the year 2010,
- Cover all villages of India by 2002
- Provide internet access to all district head quarters by the year 2000
- Imposing rural coverage obligations on all fixed service providers including private players.

NTP – 1999 also developed various strategies such as ³

1. The NTP – 99 Policy allowed for multiple operators in the market that is each circle would potentially have any number of operators with level of playing field between PSUs and private providers. Now DoT and MTNL as one among the service providers and to pay license fee and expected to entry cellular services area as operators.
2. The license fee was structured as an entry fees and revenue sharing system was introduced. Where in every private operator has to pay 17% of his revenue to the Department of telecommunication (DoT), out of which 10% is transferred to general budget contribution and 7% transferred to universal service obligation fund.
3. National Long Distance communication was to be opened to full competition from 13th August 2000. No limit on the number and no license fee to be charged.
4. TRAI would be given full powers to issue directions to all service providers. Including government service providers and to adjudicate disputes among service providers.

The 1999 policy also forced govt. to corporatize DoT by 2001 and separate policy making and licensed functions from operating functions, in case of fixed telephone private operators, any number of licenses are issued with the condition of using WLL with CDMA standards. It also introduced open competition for several services including basic services, national long distance and international telephony (VSNL). It introduced revenue sharing system and converted license fee as entry fee. As per this policy TRAI would be given full powers to issue directions to all service providers and adjudicate disputes among service providers.

Telecom Regulatory Authority of India

As per NTP-94 the Government set up the Telecom Regulatory Authority of India (TRAI) in 1997 ⁴ an autonomous body to separate the regulatory function from policy formulation and operating functions. It assures investors that the sector would be regulated in a balanced and

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fair manner. Further NTP – 99 has given full powers to TRAI to issue directions to all service providers and adjudicate disputes among service providers. The reasons for establishing TRAI were:

Erratic variation in revenue earnings of the telecom companies because of over estimated revenue assumptions forced the companies to think about an independent regulatory body which has power to set standards, regulate prices ensure technical compatibility and act as a store house of information for using it for the benefit of the companies.

Requirement of regulator to prepare the groundwork for liberalization through improving all around transparency, a level playing field various service providers, fair and nondiscriminatory availability of inter connections, good customer care and provision for universal service obligation. To have a forum at which disputes among service providers could be settled.

TRAI can frame regulations and can levy fees charges for telecom services as deemed necessary. The regulatory body also has a separate fund to facilitate its functioning. The main objective of TRAI was to break the monopoly telecom market in to competitive oligopoly and create an environment of ever increasing competition so that in future, the market itself the main regulator⁵.

As per the amended Act of 2000 the functions of TRAI are as follows⁶.

I. Recommend

- a. The timing and introduction of new service providers, and license conditions
- b. Measures to ensure efficiency of operations and competition
- c. Technology development and technological improvements in the services

II. Discharge functions related to

- a. Fixing interconnectivity between licensees
- b. Ensuring technical compatibility and effective interconnection between different service providers
- c. Regulating arrangement amongst service providers of sharing their revenue derived from providing telecommunication services
- d. Laying down the standards of quality of service
- e. Fixed rates for providing telecommunication services within and outside India.



As per the existing Act of 1997, TRAI did not provide for an independent appellate mechanism. Hence the act was amended in January 2000 and TRAI split in to two bodies. As a result Telecom Disputes Settlement and Appellate Tribunal (TDSAT) was noted and empowered with adjudicator and dispute settlement functions. TDSAT would settle disputes related to any order, decisions or directions of TRAI and among service providers.

Introducing Fourth Cellular Operator (2001)

As a consequence of National Telecom Policy (NTP) 1999, to bring in greater competition, Department of Telecom (DoT) introduced the Fourth Cellular license in 2001 through an auction. Fourth cellular operator, one each in from metros and thirteen circles has been permitted with seventeen high licenses issued to private operators. These licenses were in the 1800 MHz band using the GSM standard.

Privatization of Videshi Sanchar Nigam Limited (VSNL)

As a consequence of NTP-99, in 2004 International long Distance (ILD) – international telephony was opened for private operators. The private operators can set up and operate their own international gateways for their Internet and e-mail services. The license fee was structured as an entry fee and a revenue share there was no cap on the number of service providers and foreign equity increased to 74% this ended monopoly of public sector Videshi Sanchar Nigam limited (VSNL) over ILD services . Later on it was privatized.

Corporatization of BSNL (2000)

After the separation of regulatory functions from DoT, it continued to have a policy and operations role, with the expansion of the sector, DoT felt the need to have a greater focus on provision of services. Therefore, as per NTP-1999, two new departments, Department of Telecom Services (DTS) and Department of Telecom Operations (DTO) were created out of DoT in late October 1999 and further policy forced government to corporatize these two departments. This was to separate the services from the rest of the operations. The DoT will concentrate its attention on policy formulation, licensing and other issues facing the telecom sector. The DTS and DTO were corporatized in to a single entity – Bharat Sanchar Nigam Limited as a wholly owned government company on October 1, 2000. MTNL provide services in Delhi and Mumbai, and BSNL provide services the rest of country.

Rural Telephony – Universal Service Obligation Fund (USFO)

Villages in India face with inadequate telecom services. The rural tele density in India was only 0.65 for every 100 persons⁷. The highest challenge to the Indian Government after the corporatization of DoT and formation of BSNL in 2000 was to develop rural telecom services



in the market driven and competitive scenario. TRAI recommended the policy on Universal Service Obligation to provide interalia for increase in access to telecommunications within rural areas as well as for increasing rural teledensity¹². The policy came in to effect from 1st April 2002. As per the guidelines all telecom service providers had to pay a levy of 5% of their gross revenue which will be credited to Universal Service Obligation Fund (USOF) and operated by administrator. The support from U.S.O. Fund will be used to subsidize the cost of providing public or community telephones in villages, as well as individual telephones in villages high cost rural areas and remote regions.

Communication Commission of India (2001)

The government introduced the communication convergence bill, 2001 in parliament with the purpose of providing and facilitating the carriage and content of communications (including broadcasting, telecommunications and multi media) in orderly manner. As a result communication commission of India was set up in 2001.

Unification of Access Service Licenses –UASL (2003)

To remove the disparities in the licensing terms of providing wireless in the local loop and cellular mobile services. DoT came out with the UASL regime. A Unified Access Service License Regime for basic and cellular services was introduced on October 2003⁸. This regime enabled the service provider to offer any or all services using technologies chosen by him. That is the operators could provide either mobile or fixed line service using the same license. The entry fee fixed for a pan India UASL was fixed at Rs.1658 crores. This price was the same on that determined in the auction for GSM license in 2001. The UASL did not specify the total amount of spectrum. Further, start-Up spectrum was bundled with the license, which also provide for allocation of additional spectrum. All basic service licenses have migrated to limited mobility to fixed service providers in the form of wireless in local loop (WLL) Further license fee for unified access service regime reduced by 2% to bring it in the range of 6.8%.

Allowing Limited Local Mobility Operators as Cellular Operators (2003)

As a consequence of NTP 99, any number of fixed line operators could be licensed. They were mandated to use wireless in the local loop (WLL) using Code Division Multiple Access (CDMA) standard. Over time, owing to technological developments, the distance over which such wireless connectivity could be provided increased considerably. These operators then started providing mobile services using CDMA called WLL with Limited Mobility (WLL (LM)). Due to regulatory disparity in the license fee and interconnection terms between fixed service and cellular, it was cheaper to provide mobile services through CDMA. GSM operators saw this as a “back door” entry by CDMA operators.

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After a series of review processes including petition in the TDSAT, GSM operators filed a case in the SC. On September 27, 2003, the SC referred the matter back to TDSAT and asked it to consider developing a framework which would bring equivalence amongst the license conditions for the two set of operators, an issue which SC found had not been addressed by the TDSAT. It allowed CDMA operators to continue providing services, as it would facilitate growth in Teledensity.

Broad Band Policy (2004)

The National Internet Backbone (NIB) was commissioned Broad band policy also announced on October 4th 2004 and Nation Internet Exchange was set up during the year. The year 2007 was christened on the 'year of Broad Band' for popularizing broad band service in villages. As on 31st December 2007 there are 3.02 million broad band subscribers. Government has issued new guidelines and a new single license for internet services instead of four permission licenses required earlier.

Mergers (2004)

Guidelines issued for intra- circle mergers of licenses in January 2004. Further a revised policy for Merger and Amalgamation of companies holding various licenses for telecom service has been issued on 20-02-2004. Further the market share limit for transfer and merger of licenses has been increased to 50% from existing 35%.

Introducing Additional 2G Licenses (2008)

Given the growth in mobile services, there were competing demands from existing operators for additional spectrum above the start-up and from new operators wishing to enter the sector. In order to provide a framework for prioritizing additional spectrum to existing operators, DoT came up with a Subscriber Linked Criteria (SLC) that allocated additional spectrum based on number of subscribers in the respective service areas. By January 2008, DoT had tightened the allocation under SLC for existing operators by increasing the number of subscribers which would enable them to qualify for additional spectrum. This increased the availability of start-up spectrum.

In January 2008, DoT announced that additional players could get UASL licenses with start-up spectrum based on availability. This led to a rush for UASL licenses, 243 licenses were allocated. However, due to spectrum scarcity, start-up spectrum could be allocated only to a few of the applicants. The process of selecting those to whom such an allocation could be made was done on a first come first serve basis. Further only a few companies were informed about the process which enabled them to comply with the payments and formalities ahead of



others. This allowed them to get preferential allocation of licenses. This was seen as unfair and cases were filed by eminent citizens in the SC in 2010.

Mobile Number Portability (MNP-2008)

Telecom Regulation Authority of India (TRAI) submitted recommendations on Mobile Number Portability (MNP) to achieve one nation and free roaming. The Government accepted and implemented MNP starting from four Metro cities in the first phase by the end of the fourth quarter of 2008⁹. Later on it was launched at Haryana on 25th November and on January 2011 in entire country.

National Do Not Call Register (NDNC-2008)

With a view to regulate the unsolicited calls from the telemarkets, a regulation has been implemented where by “National Do Not Call Register NDNC” has been put in to place.

Bringing in Wireless Broadband (2010)

In line with global trends, the GoI felt that Internet access was an important vehicle for economic growth. Due to the growth of mobiles and poor fixed line infrastructure, mobiles were expected to be the devices by which large part of the population was likely to access the Internet. Therefore, DoT came up with a framework for 3G and Broadband Wireless Access (BWA) spectrum allocation in new bands.

3G Auctions

While there was uncertainty regarding 2G allocations, 3G auctions were held in India in May 2010. On an average, three to four operators were allocated 5 MHz spectrum in the 2.1 GHz band for each service area for a period of 20 years. BSNL and MTNL were allocated spectrum without having to participate in the auction but had to pay the market price. 3G services were rolled out subsequent to the auctions.

BWA Auctions

Soon after the 3G auctions, 20 MHz of unpaired BWA spectrum was auctioned in the 2.3 GHz band. MTNL and BSNL were given spectrum under similar framework as for 3G.

National Optical Fiber Network (NOFN)

Government approved a priority for National Optical Fiber Network in November 2011 for providing Broad band connectivity to all 2.5 lack gram panchayats¹⁰ at a cost of

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approximately Rs.20000 crores. Further NOFN was a part of strategy for universalizing broad band access. Government of India envisaged that NOFN would “transform governance, service delivery and unleash local innovation capacity through rural broad band”. The Department of Telecommunication (DoT) created a high level committee (HLC) under the PMs Office to strengthen skills and applications development to implement the NOFN. The High Level Committee (HLC) was responsible for developing a frame work for implementation including the technological architecture, budgets and other issues related to NOFN. The NOFN had an estimated cost of Rs.200 billions to be funded by the universal service obligation fund (USOF). NOFN was designed to lease capacity from Railtel, Power Grid and BSNL and build the incremental fiber where it was unavailable. Thus it provides connectivity from the blocks to the gram Panchayats.

Formulation of NTP 2012 (2012)

The Objectives of NTP 2012 were to:

1. N T P 2012. The Government approved National Telecom Policy 2012 on 31st May 2012.
2. The primary objectives of NTP-2012 is maximizing public good by making available, affordable, reliable and secure telecommunications and broadband services across the entire country.
3. Provide secure, affordable and high quality telecommunication services to all citizens.
4. Increase rural teledensity from the current level of around 39 to 70% by the year 2017 and 100% by the year 2020.
5. Provide affordable and reliable broadband-on-demand by the year 2015 and to achieve 175 million broadband connections by the year 2017 and 600 million by the year 2020 at minimum 2 Mbps download speed and making available higher speeds of at least 100 Mbps on demand.
6. Promote innovation, indigenous R&D by creating a corpus and manufacturing to serve domestic and global markets, by increasing skills and competencies with the indigenous entrepreneurs and IPRs
7. Deliver high quality seamless voice, data, multimedia and broadcasting services on converged networks for enhanced service delivery to provide superior experience to users.
8. Put in place a simplified Merger & Acquisition regime in telecom service sector while ensuring adequate competition.
9. Promote an ecosystem for participants in VAS industry and value chain to make India a global hub for Value Added Services (VAS).
10. Ensure adequate availability of spectrum and its allocation in a transparent manner through market related processes. Make available additional 300 MHz spectrum for IMT services by the year 2017 and another 200 MHz by 2020.



11. Strengthen the framework to address the environmental and health related concerns pertaining to the telecom sector.
12. Enhanced and continued adoption of green policy in telecom and incentivize use of renewable energy sources for sustainability.
13. Achieve substantial transition to new Internet Protocol (IPv6) in the country in a phased and time bound manner by 2020 and encourage an ecosystem for provision of a significantly large bouquet of services on IP platform.

CONCLUSION

The new economic policy forced the Indian government to shift telecommunication's secondary status to priority status. As a result after 1990, India witnessed a paradigm shift in the growth of the telecom sector and today the telecom sector is a major contributor to the economy. The acceleration in the growth of the telecom sector has been possible mainly because of the positive and proactive policies by the government. The services of policy measures such as introduction of the NTP-94 and NTP-99, the establishment of TRAI, TDSAT, opening the sector for multiple number of competitors, corporatization of BSNL and MTNL to separate policy making, regulating and operating functions, privatization of NLD and ILD-VSNL services, allowing Limited Local Mobility Operators as cellular operators with mandate of use of wireless in the local loop using CDMA technology. Unified licensed regime creation and utilization of USOF, announcement of new Broad Band policy bringing in wireless Broad band, priority to NOFN, auctions for 3G and Broad band wireless spectrum allocation in new bands, launching MNP to achieve one nation and free roaming and allowing FDI upto 100% in the telecom sector. All these measures broke the monopoly of the telecom sector into competitive oligopoly market and resulted in tariff reduction.

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