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**Dr. Reeta Gupta**  
Lecturer, MSJ College,  
Bharatpur, Rajasthan, India

## **Growth and investment potential of telecom sector of India in post-reform period (Review of literature)**

**Dr. Reeta Gupta**

### **Abstract**

Today, India is one of the fastest growing markets in the world and represents unique opportunities for international companies in the stagnant global scenario. The total subscriber base has reached 970 million in 2014. This literature review attempts to assess the growth and investment potential of the telecom sector in India.

**Keywords:** Growth potential, investment potential, telecom sector

### **Introduction**

The Indian Telecommunications network, with 256 million connections (as on October 2007) is the third largest in the world. The sector is growing at a rate of 46-50% during the recent years. This rapid growth is possible due to various proactive and positive decisions of the Government and contribution of both by the public and the private sectors. The rapid strides in the telecom sector have been facilitated by liberal policies of the Government that provides easy market access for telecom equipment and a fair regulatory framework for offering telecom services to the India consumers at affordable prices.

### **Industry background**

Today, India is one of the fastest growing markets in the world and represents unique opportunities for international companies in the stagnant global scenario. The total subscriber base has reached 203 million in 2007. The wireless subscriber base has jumped from 1.6 million in 1999 to 28.2 million in 2003. In the last 3 years, two out of every three new telephone subscribers were wireless subscribers. Consequently, wireless now accounts for 40% of the total telephone subscriber base, as compared to only 9.5% in 2000. Wireless subscriber growth is expected to accelerate further from 2 million new subscribers per month now to 2.5 million by 2005.

Given the persistent low telephone penetration rate of about 7 per one hundred and high levels of overall economic growth, the telecom sector offers vast potential. The mobile market recently topped 31 million customers. It is therefore not surprising that India is one of the fastest growing telecom markets with an average annual growth of about 22% for basic telephony and over 100% for cellular and Internet services.

Recognizing that the telecom sector is one of the prime movers of economy, the Government's regulatory and policy initiatives have been directed towards establishing a world-class telecommunications infrastructure. Capital requirements are considerable. India required investments of at least \$ 37 billion in 2005 and further of \$ 69 billion by 2010.

The technologies currently in use are (Global System for Mobile Communications (GSM) and Code Division Multiple Access (CDMA). There are primarily 10 companies providing mobile services in 19 telecom circles and 4 metro covering 2000 towns across the country.

Presently there are 4 GSM operators and 2 CDMA operators in each circle. There are 100 state-of-art Networks (GSM + CDMA) on air with a total investment of \$8 billion.

The Wireless Planning and Co-ordination wing of the Department of Telecommunications allocates spectrum in accordance with the National Frequency Allocation Plan (NFAP). The NFAP is revised every two years according to the radio regulations of ITU. According to the frequency plan, the frequency band 824-844 MHz paired with 869-889 MHz has been earmarked for CDMA operators; 890-915 paired with 935-960 MHz has been earmarked for

**Corresponding Author:**  
**Dr. Reeta Gupta**  
Lecturer, MSJ College,  
Bharatpur, Rajasthan, India

GSM mobile operators; 1710- 1785 MHz paired with 1805-1880 MHz is also reserved for GSM and CDMA operators. The Indian telecom is divided into 22 Telecom Circles classified into 4 categories-Metro, A, B or C depending on economic variable. 3 Metro Circles, 5 category A Circles, 8 category B Circles 6 category C Circles.

### **Organizational structure of telecom services in India**

Telecom sector was a state monopoly until the mid-eighties when the liberalization process started. The Department of Telecommunications (DoT), under the Ministry of Communications, administered telecom services initially. The Planning Commission, an apex level body, allocated funds for telecom development from government resources. The telecom sector, therefore, competed with other development priorities of the government for a share in resource allocation. Planning engineering, installation, maintenance, management and operation of telecom services for the whole of India was managed by the DoT, which also laid down monitored adherence to technical standards and managed frequency usage. DoT was the second largest employer in the public sector, employing nearly 0.45 million people. In one of the earliest steps towards reforms and boosting the indigenization efforts, the government set up the Center for Development of Telematics (C-DOT) in 1984 with the objective of initiating and managing research in the switching and transmission segments. Subsequently, the government separated the Department of Post and Telegraph in 1985 by setting up the Department of Posts and the Department of Telecommunications. However, the DoT was a monolithic entity, with a huge work force managing the telecom operations of the entire country. The bureaucratic approach and the slow acceptance and induction of new technologies with very little customer orientation were perceived as barriers to growth. Consequently, in 1986, two new public sector corporations—Mhanagar Telephone Nigam Limited (MTNL) and Videsh Sanchar Nigam Limited (VSNL) – were set up under the DoT. MTNL was carved out of the DoT and took over the operation, maintenance, and development of telecom services in Bombay and New Delhi. VSNL was set up to plan, operate, develop, and accelerate international telecom services in India. The government created the corporate organizations in order to allow decision-making autonomy and flexibility and facilitate public borrowings which would not have been possible under a government framework. However, policy formulation, regulation, and several key decision areas remained with the DoT. A new organization, the Telecom Commission, was created in 1989 with a wide range of executive, administrative and financial powers to formulate and regulate policy and prepare the budget for the DoT. The Telecom Commission had four full time members managing technology, production, services, and finance and four part time members representing the Planning Commission, Department of Finance, Department of Industry, and Department of Electronics. Telecom Consultants India Ltd. was a project organization, under the DoT and provided consultancy India Ltd. was a project organization in India and other developing countries and turnkey project management services in India and other developing countries. A number of regional and national level training centers provided telecom related training to employees in this sector. Several private manufacturers and state level

enterprises manufactured a wide variety of telecom equipment. The largest manufacturer of Telecom equipment was Indian Telecom Industries (ITI), a wholly owned government enterprise. The sector was predominantly governed by the Indian Telegraph Act, 1885 and the Wireless Telegraph Act, 1993 which had been modified several times in 1997, legislation was enacted to set up a regulatory body, the Telecom Regulatory Authority of India. Creation of MTNL, its subsequent operations, and the relationship of the personnel employed in MTNL to their counterparts in the DoT, raised questions about the organizational structure most suited for this sector. Therefore, in 1991, at government initiative, high powered Athreya Committee submitted a report on the appropriate organizational structures for this sector.

Since 1995, there had been an increasing pressure from international organizations such as WTO to review the monopoly status of VSNL and the DoT's monopoly in long distance communication. VSNL continued to have monopoly over international telecom and broadcast transmission. It had planned to enter long distance market, but the DoT had hampered its plans.

### **Telecom services**

1. Basis Services
2. Data Communication Services
3. Cellular and Paging Systems
4. Software Exports

### **Reforms in the telecom sector**

Indian telecommunications sector has undergone a major process of transformation through significant policy reforms, particularly beginning with the announcement of NTP 1994. Historically, the process of expansion of the network was rather slow, being owned and managed by the Government under the assumption that telecommunications was a natural monopoly best run as a state-owned monopoly. By the early 1990s, this concept of a natural monopoly was increasingly challenged in many countries by technological changes, especially in the wireless field and by laudable success in several countries in lowering the cost of services for common man. Policy makers in our country began process of reforms in the 1990s that led to gradual ushering in competition for greater consumer welfare, particularly in terms of lowering tariffs and improvement in quality of service.

### **Liberalization of Indian telecom market**

Following the example of the rest of the world the Indian telecom market was liberalized in accordance with the New Industrial Policy announced by the Government in 1991. The liberalization process was initiated by opening up of the manufacturing sector for private investment. This resulted in setting up a large number of manufacturing units for manufacture of digital switching and transmission equipment in the country by multinational companies such as Siemens, AT & T, CIT Alcatel, NEC etc. The liberalization of the manufacturing sector has brought about a dramatic reduction in equipment costs and an improvement in the reliability and quality of equipment, which was being supplied in the past by a State monopoly. Immediately services, information services and mobile services was thrown open for competition. Following the announcement of National Telecom Policy in 1994, the

Basic Service market was also opened up for private participation. However, unlike the European countries where setting up of an independent regulator preceded the opening up of the market, the reverse sequence was adopted in India. Whereas the telecom service market was opened up beginning in 1992, the Regulatory Authority was set-up five years later i.e. only in 1997. It was like starting a test match without an umpire. Some of the problems faced by the private industry in 1990s, which led to a number of Court-cases, could be traced to the delay in restructuring of the Telecom sector and in putting in place the TRAI. The first TRAI set up in Feb 1997 faced a number of lacunae with the result that another regulatory body had to be created through an amendment to the original TRAI Act in January 2000. Even the present regulatory framework may not be adequate to tackle the issues relating to Convergence. In the last 2/3 years, the transport technology for telecommunication, broadcasting and the Internet has been converging. With the 3rd Generation Cellular Systems being round the corner, the broadband Data services including Video Conferencing will be a reality, even in the wireless networks, where the operators have faced a constraint of bandwidth, unlike the fiber based fixed networks where there is no such constraint. With the 3rd Generation Mobile systems, E-commerce will give way to M-commerce and the existing framework of licensing and regulation under which separate licenses have been granted for fixed, mobile, internet and other value added services may not be justified in the interest of optimal utilization of the national resources. In view of convergence, a converged regulatory platform for telecommunication, broadcasting and IT may be provided by the Government in the near future.

#### **FDI in telecom sector**

Foreign Director Investment (FDI) was permitted in the telecom sector beginning with the telecom manufacturing segment in 1991 – when India embarked on economic liberalization. FDI is defined as investment made by non-residents in the equity capital of a company. For the telecom sector, FDI includes investment made by Non-Resident Indian (NRIs) Overseas Corporate Bodies (OCBs), foreign entities, Foreign Institutional Investors (FIIs), American Depository Receipts (ADRs)/Global Depository Receipts (GDRs) etc.

Foreign Investment in telecom industry is a major source of funding the Indian Telecom Industry. Attracting the Foreign Direct Investment is the top priority of the Indian government in the recent years. From August, 1991 to December, 2006 the total FDI in the telecom sector stood at Rs 1,65,535 million constituting about 9.4% of the total flows in that period.

The share of telecom sector in total FDI inflows stood at 4.39% in 2003-2004 which further increased to 3.54% in the year 2004-2005 and further to 4.68% in 2005-2006 inflow of FDI into India's telecom sector during January 1991 to June 2007 was approximately Rs 20342.9 crore. Also, 20% of the approved FDI in the country is related to the telecom sector.

#### **Review of literature**

In India a number of studies have been conducted in the past to review the performance of the telecom sector covering the various aspects of the sector ranging from performance of the telecom sector in terms of rural coverage, review of

the various reforms introduced in the telecom sector, review of policy changes introduced in the sector and the future prospects in the sector etc. Through my work I would analyze the telecom sector from the various angles which might be of relative importance for the investors desirous of investing in this sector because this sector has enormous scope for foreign investments in the wake of increasing globalization, and also for a lay man who wants to review the important of the sector in the developing country like India. A summary of a few of the studies conducted is given in the following lines:

Arvind Virmani, ICRIER (June, 2004) in his study attempted to review the various reforms introduced in the telecom sector and their efficiency. He studied the loopholes in the various reform measures as well as their strengths that have contributed to make the telecom reforms a success despite various speed breakers put forward in the form of inefficient regulatory framework and excessive intervention by the Government.

Rekha Jain, (May, 2005) in the study paper, attempted to review the various policy measures taken by the Government to improve the telecom sector's performance in the country. The various policy measures included rural service provisions at the village levels, tariff policies for the rural services, rural funding policies etc. It emphasized the need for the policies that are state specific rather than the current national level policies. It also analyzed the rural telecom funding policies under USOF (Universal Service Obligation Fund) and ADC (Access Deficit Charge). It studies the efficiency of the major projects like CIC, Logue, GRASSO and Akshayat. The study recommended that the policy regime should focus on removing the impediments to the growth of the sector and suggested to increase the size of USOF as well to phase out the ADC regime over a specified period of time which would contribute to the reduction in service cost and make the telecom more affordable.

A study paper titled “ Analysis of Internet and Broadband Tariffs in India”, published by TRAI in November, 2006, attempted to provide an analysis of the prevailing market structure and tariffs for internet services in India. It provided the comparative analysis of the charges levied by the various market players i.e. the ISPs and the different plans made available by them to the public.

Moazzem Hossain and Rajat Kathuria in the study, published in September 2003, titled as Telecommunications Reforms and the Emerging 'New-Economy': The Case of India' have addressed the economic and the regulatory reforms brought into the telecommunications sector of India, The study proceeds to study the emergence of the 'new-economy' and its contribution to growth of the telecom sector. The study further discusses the challenges for the Indian economy in managing the newly emerged economic opportunities.

Arpita Mukherjee and Prema Ahuja of ICRIER, in a study published in December 2007, titled as 'Indo-US FTA: Prospects for the Telecommunication Sector', analyzed the various aspects if some FTAs are entered between India and the US. The study found that India and the US have trade complementarities in telecommunication services and that it should be a priority sector in the FTA negotiations. The study identified certain areas such as R&D related to

telecommunication and broadband infrastructure where collaboration between companies of both countries would be mutually beneficial. The study found that telecommunication services have been significantly liberalized in the US FTAs- much beyond the scope of the GATS and the Reference Paper on Basis Telecommunications. The survey-based study analyzed the trade between India and the US in the telecommunication sector, identified barriers to trade, suggests policy reforms and discusses India's possible negotiating strategies if the two countries enter into an FTA.

Arvind Virmani, in a study published in April, titled as 'Foreign Director Investment Reforms' analysed the global trends in FDI with a focus on developing countries. It compared the FDI flows into India relative to that of other emerging economies. It concludes by presenting the sectorial distribution of FDI inflows into India.

K.S. Chalpati Rao, M.R. Murthy and Biswajit Dhar, in a study titled as 'Foreign Direct Investments in India since Liberalization: An Overview', studies the various reasons behind the restricted inflow of FDI in the Indian economy and the various measures taken by the government, in post-reforms period, to enhance the flow of FDI into various sectors of the Indian economies.

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