E-BUSINESS WITH TELECOM INDUSTRY IN INDIA

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ABSTRACT

Today the Indian telecommunications network with over 375 Million subscribers is second largest network in the world after China. India is also the fastest growing telecom market in the world with an addition of 9-10 million monthly subscribers. The tele-density of the Country has increased from 18% in 2006 to 33% in December 2008, showing a stupendous annual growth of about 50%, one of the highest in any sector of the Indian Economy. The Department of Telecommunications has been able to provide state of the art world-class infrastructure at globally competitive tariffs and reduce the digital divide by extending connectivity to the unconnected areas. India has emerged as a major base for the telecom industry worldwide. Thus Indian telecom sector has come a long way in achieving its dream of providing affordable and effective communication facilities to Indian citizens. As a result common man today has access to this most needed facility. The reform measures coupled with the proactive policies of the Department of Telecommunications have resulted in an unprecedented growth of the telecom sector.

KEYWORDS: Tele Density, GSM Sector, CDMA, BPO and ITeS, Internet Service Providers

I. INDUSTRY OVERVIEW

1.1 Background

The Indian Telecommunications network with 203 million connections is the third largest in the world and the second largest among the emerging economies of Asia. Today, it is the fastest growing market in the world. The telecommunication sector continued to register significant success during the year and has emerged as one of the key sectors responsible for India’s resurgent India’s economic growth.

- Telecom sector accounts for 1 percent of India’s GDP. Likely to double in 2-3 years
- Telecom services contribute 30 percent to India’s total service tax revenue
- The Indian telecom sector gives direct employment to more than 4,00,000 people, compared to about 6,00,000 people in China
- Not just the enabler of software, BPO and ITeS companies, it is also the lifeline of a fast growing E-commerce space
- State-of-the-art telecom infrastructure has led to the rise of cities like Mysore, Mangalore, Jaipur, Ahmedabad, Kochi on the software services map
- This has helped spread the benefits of a booming Indian economy to beyond metros and large cities, and wealth creation is happening in tier-2 cities

1.1.1 Growth

The sector, which was growing in the range of 20 to 25 per cent up to the year 2002-03, has moved to a higher growth path of an average rate of 40-45 per cent during the last two years.

This rapid growth has been possible due to various proactive and positive decisions of the Government and contribution of both by the public and the private sector. The rapid strides in the telecom sector have been facilitated by liberal policies of the Government that provide easy market access for telecom equipment and a
fair regulatory framework for offering telecom services to the Indian consumers at affordable prices.

1.1.2 Teledensity

The telecom sector has shown robust growth during the past few years. From a teledensity of mere 0.5 per cent in the year 1989, it has grown to double digit in the year 2005.

Buoyed by the better-than-expected teledensity in 2005 (11.4 per cent against 8.6 per cent in 2004) due to the mobile boom in India, Department of Telecommunications (DoT) has revised the upwards the target of 22 per cent teledensity by 2007.

1.1.3 Wireline Vs Wireless

It has also undergone a substantial change in terms of mobile versus fixed phones and public versus private participation. The number of telephones has increased from 44.97 million on March 2002 to 203 million by February 2007. The preference for use of wireless phones has also been predominant in the sector. Wireless subscribers increased from 6.68 million on March 2002 to 162.53 million on February 2007.

This is confirmed from the rising share of wireless phones, which increased from 14.85 per cent (6.68 million telephones) in March 2002 to 78.8 per cent (149.59 million telephones) in December 2006. At present, the mobile subscriber additions in India is more than 6 million mark, the highest in the world. The share of private sector in the number of telephones has increased from 15.12 per cent (6.80 million telephones) in March 2002 to 65.0 per cent (123.44 million telephones) in December 2006.

![Image of changing market composition: Public Vs Private](source)

Participation of the private entities in the telecom sector is rapidly increasing rate there by presenting the enormous growth opportunities. There is a clear distinction between the Global Satellite Mobile Communication (GSM) and Code Division Multiple Access (CDMA) technologies used and the graph below shows the divide between the two.

![Image of technology-wise wireless market](source)

1.2 Segment wise Status

1.2.1 Wireline Services

With increasing penetration of the wire less services, the wireline services in the country is becoming stagnant. The total subscriber base of Wireline that was 38.29 million on March 2002 registered a negligible growth to reach 40.3 million as on December 2006.
On the other hand, Broadband demand has picked up and promises to stabilise fixed line growth which is 1.92 million at present and is growing at 0.1 million per month. Mahanagar Telephone Nigam Limited (MTNL) is one of the first in the world to deploy the Asymmetric Digital Subscriber Line (ADSL2+) network. Internet Protocol Television (IPTV) services have started in Delhi and Mumbai on MPEG-4 Part-10(H.264) based Content Delivery platform.

1.2.2 GSM Sector

In terms of the Global System for Mobile Communication (GSM) subscriber base this now places India third after China and Russia. China had 401.7 million GSM subscribers in November 06, Russia 152.2 million. The total GSM subscriber base in India crossed the 100 million mark to touch 105.43 billion in December 2006. Private operators have 75 per cent subscribers whereas Public sector Operators (BSNL & MTNL) have 25 per cent subscribers in the GSM segment.

Number of Public Sector Units (PSUs) licensee are 23 where are number of operational private operator licensee are 70. Department of Telecommunications has issued 22 new licensees to private operators in Dec, 06 and these new licenses have not commenced their services till now.

1.2.3 CDMA Services

CDMA technology was introduced in India as a limited mobility solution. The introduction of CDMA services has created competition, lowered tariffs and offered many citizens access to communication services for the first time. The subscriber base that was merely 1.1 million by the end of 2002, has grown to 44.79 million in the quarter ending December 2006. Reliance Communication (former Reliance Infocomm) has the highest subscriber base with 60 per cent market share followed by Tata Tele Services Limited with 33 per cent market share, while other players in CDMA Technology have the remaining 7 per cent.

1.2.4 Internet Services

Internet services were launched in India on August 15, 1995. In November 1998 the government opened up the sector to private operators. A liberal licensing regime was put in place to increase Internet penetration across the country. Though a large number of Internet Service Providers (ISPs) has been licensed (389) to operate Internet service today, just the top 20 ISPs service 98 per cent of subscribers.
Similarly, while internet telephony is permitted to 128 ISPs, only 32 actually provide the service. The low growth of internet and broadband will make the target of 18 million internet subscribers and 9 million broadband connections by 2007 tough to achieve.

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Internet subscribers stood at 8.6 million for the quarter ending 31st December 2006, registering an increase of 6.00 per cent. The growth trend during the quarter is positive as compared with last quarter where it was 5.02 per cent. The total Internet subscribers increased from 6.7 million at the end of December 2005 to 8.6 million at the end of December 2006 registering a growth of 28.03 per cent. Bharat Sanchar Nigam Ltd (BSNL) has retained its top position and reported a subscriber base of 38.12 Lakhs Internet subscribers against 3.55 million during the last quarter. Mahanagar Telephone Nigam Limited (MTNL) has retained second position with a subscriber’s base of 1.66 million. Sify Limited is third with a base of 8,06,000 subscriber.

1.3 Manufacture of Telecom Equipment
Rising demand for a wide range of telecom equipment, particularly in the area of mobile telecommunication, has provided excellent opportunities to domestic and foreign investors in the manufacturing sector. The last two years saw many renowned telecom companies setting up their manufacturing base in India. Ericsson has set up GSM Radio Base Station Manufacturing facility in Jaipur. Elcoteq has set up handset manufacturing facilities in Bangalore. Nokia set up its manufacturing plant in Chennai. LG Electronics set up plant of manufacturing GSM mobile phones near Pune. Ericsson recently launched their R&D Centre in Chennai. Flextronics has set up an SEZ in Chennai. Motorola is likely to go into production in the first quarter of 2007. Other major companies like Foxconn, Aspcom, Solectron etc have decided to set up their manufacturing bases in India. The aim is for US$ 2 billion FDI in manufacturing, doubling the production in 2007 and quadrupling it in 2010. Target has been set for achieving exports of 6 times from present level of 0.5 billion in 2010. The Government has already set up Telecom Equipment and Services Export Promotion Forum and Telecom Testing and Security Certification Centre (TETC). A large number of companies like Alcatel, Cisco have also shown interest in setting up their R&D centers in India. With above initiatives India is expected to be a manufacturing hub for the telecom equipment.

II. POLICY AND INITIATIVES

2.1 Regulatory Framework
The Telecom Regulatory Authority of India (TRAI) was set up in March 1997 as a regulator for Telecom sector. The TRAI’s functions are recommendatory, regulatory and tariff setting in telecom sector. Telecom Disputes Settlement and Appellate Tribunal (TDSAT) came into existence in May, 2000. TDSAT has been empowered to adjudicate any dispute -
• between a licensor and a licensee
• between two or more service providers
• between a service provider and a group of consumers
• hear and dispose of appeal against any direction, decision or order of TRAI

Tariffs for telecommunication services have evolved from a regime where tariffs were determined by Telecom Regulatory Authority of India to a regime where tariffs are largely under forbearance. TRAI intervenes by regulating the tariffs for only those services, the markets of which are not competitive.

2.2 Government Initiatives
The Government has taken the following main initiatives for the growth of the Telecom Sector:
• All telecom services have been opened up for free competition for unprecedented growth
• 217 (Information Technology Agreement) ITA-I items are at zero Customs Duty. Specified capital goods and all inputs required to manufacture ITA-I, items are at zero Customs Duty
• Availability of low cost mobile handsets
• The international Long Distance Services (ILDS) opened with effect from April 2002. Calling Party Pays (CPP) regime was implemented with effect from 1st May 2003
• Guidelines for Unified Access Service License regime were issued in November 2003, 27 licenses out of 31 Basic Service Licenses were converted to Unified Access Service Licenses
• In April 2004, license fee for Unified Access Service Providers (UAS) was reduced by 2 per cent
• License fee for infrastructure Provider-II reduced from 15 per cent to 6 per cent of the Adjusted Gross Revenue and spectrum charges between 2 to 4 per cent in June 2004
• Entry fee for NLD licenses was reduced to Rs. 2.5 Crore from Rs. 100 Crore. Entry fee for ILD reduced to Rs. 2.5 Crore from Rs. 25 Crore
• Lease line charges have been reduced to make the bandwidth available at competitive prices to facilitate growth in IT enabled services
• One India plan i.e. single tariff of Re. 1/- per minute to anywhere in India was introduced from 1st March 2006 by the Public Sector Undertakings. This tariff was emulated by most of the private service providers also. This scheme has led to death of distance in telecommunication and is going to be instrumental in promoting National Integration further

2.3 Foreign Direct Investment Policy
Foreign Direct Investment (FDI) was permitted in the telecom sector beginning with the telecom manufacturing segment in 1991 - when India embarked on economic liberalisation. 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 Indians (NRIs), Overseas Corporate Bodies (OCBs), foreign entities, Foreign Institutional Investors (FIIs), American Depository Receipts (ADRs)/Global Depository Receipts (GDRs) etc. Present FDI Policy for the Telecom sector:
• In Basic, Cellular Mobile, National Long Distance, International Long Distance, Value Added Services and Global Mobile Personal Communications by Satellite, FDI is limited to 49 per cent (under automatic route) subject to grant of licence from the Department of Telecommunications and adherence by the companies (who are investing and the companies in which investment is being made) to the Corporate Catalyst India A report on Indian Telecom Industry licence conditions for foreign equity cap and lock-in period for transfer and addition of equity and other license provisions.
• Foreign Direct Investment up to 74 per cent permitted, subject to licensing and security requirements for the following:
  - Internet Service (with gateways)
  - Infrastructure Providers (Category II)
  - Radio Paging Service

• FDI up to 100 per cent permitted in respect to the following telecom services:
  - ISPs not providing gateways (Both for satellite and submarine cables)
  - Infrastructure Providers providing dark fibre (IP Category I)
  - Electronic Mail
  - Voice Mail
The above is subject to the following conditions:
• FDI up to 100 per cent is allowed subject to the condition that such companies would divest 26 per cent of their FDI up to 49 per cent is also permitted in an investment company, set up for making investment in the telecom companies licensed to operate telecom services. Investment by these investment companies in a telecom service company is treated as part of domestic equity and is not set against the foreign equity cap.
• Manufacturing - 100 per cent FDI is permitted under automatic route.
• FDI is subject to the following conditions
• FDI up to 100 per cent is allowed subject to the conditions that such companies would divest 26 per cent of their equity in favour of Indian public in 5 years, if these companies are listed in other parts of the world.
• The above services would be subject to licensing and security requirements, wherever required.
• Proposals for FDI beyond 49 per cent shall be considered by FIPB on case to case basis.

III. COMPETITION OVERVIEW

3.1 Major Players
There are three types of players in telecom services:
• State owned companies (BSNL and MTNL)
• Private Indian owned companies (Reliance Infocomm, Tata Teleservices,)
• Foreign invested companies (Hutchison-Essar, Bharti Tele-Ventures, Escotel, Idea Cellular, BPL Mobile, Spice Communications)

Bharat Sanchar Nigam Limited (BSNL)
Name Bharat Sanchar Nigam Limited (BSNL)
Year of Establishment 2000
Company Profile Bharat Sanchar Nigam Ltd. is World's 7th largest Telecommunications Company providing comprehensive range of telecom services in India: Wireline, CDMA mobile, GSM Mobile, Internet, Broadband, Carrier service, MPLS-VPN, VSAT, VoIP services, IN Services etc. Within a span of five years it has become one of the largest public sector unit in India.
Sales/Revenues/Turnover USD 8 billion (Turnover)
Global Presence/ Marketing Network It has a network of over 45 million lines covering 5000 towns with over 35 million telephone connections.
Acquisitions / Strategic Alliances Future Prospect BSNL plans to expand its customer base from present 47...
millions lines to 125 million lines and infrastructure investment plan to the tune of Rs. 733 crores (US$ 16.67 million) in the next three years.

**Mahanagar Telephone Nigam Limited (MTNL)**
**Name** Mahanagar Telephone Nigam Limited (MTNL)
**Year of Establishment** 1986
**Company Profile** MTNL was set up by the Government of India to upgrade the quality of telecom services, expand the telecom network, introduce new services and to raise revenue for telecom development needs of India's key metros. MTNL with a market share of about 13% of the National telecom Network has a customer base of 5.92 million. The Govt. of India currently holds 56.25% stake in the company.

**Sales/Revenues/Turnover** USD 2.47 billion (Revenue)

**Global Presence/Marketing Network** It has a customer base of 5.92 million

**Acquisitions / Strategic Alliances** MTNL has formed a Joint Venture company in Nepal by the name of United Telecom Ltd. (UTL) in collaboration with Telecom Consultants India Limited (TCIL) in 2001 for providing WLL based basic services in Nepal. MTNL has set up its 100% subsidiary Mahanagar Telephone Mauritius Limited. (MTML) in Mauritius, for providing basic, mobile and international long distance operation. MTNL has restructured the Infotel group.

**Videsh Sanchar Nigam Limited (VSNL)**
**Name** Videsh Sanchar Nigam Limited (VSNL)
**Year of Establishment** 1986
**Company Profile** The Videsh Sanchar Nigam Limited (VSNL) - a wholly Government owned corporation. The company operates a network of earth stations, switches, submarine cable systems, and value added service nodes to provide a range of basic and value added services and has a dedicated work force of about 2000 employees. VSNL's main gateway centers are located at Mumbai, New Delhi, Kolkata and Chennai.

**Sales/Revenues/Turnover** USD 1.084 billion (Revenue)

**Global Presence/Marketing Network** The company has 52 subsidiaries in 21 countries as well as operations across four continents.

**Acquisitions / Strategic Alliances** VSNL acquired a 50:50 joint venture between Bharti and SingTel, to undertake the largest infrastructure project between Singapore and Indian companies in 2001

**Future Prospect** Bharti Airtel company is planning to set up 3000 more towers as part of enhancing their rural coverage and will now focus on rural and semi-urban areas.
Reliance Communication  
**Name** Reliance Communications  
**Year of Establishment** 1999  
**Company Profile** Reliance Telecom's cellular services are available in 340 towns within its eight-circle footprint. Reliance Infocomm also offered for the first time in India, mobile data services though its R-World mobile portal. This portal leverages the data capability of the CDMA 1X network. Reliance Infocomm offers a complete range of telecom services covering mobile and fixed line telephony including broadband, national and international long distance services, data services and a wide range of value added services and applications aimed at enhancing productivity of enterprises and individuals.  
**Sales/Revenues/Turnover** USD 767 million (Revenue)  
**Global Presence/Marketing Network** Reliance Communications has IP-enabled connectivity infrastructure comprising over 150,000 kilometers of fibre optic cable systems in India, the US, Europe, Middle East, and the Asia Pacific region.  
**Acquisitions / Strategic Alliances** International wholesale telecommunications service provider, FLAG Telecom amalgamates with Reliance Gateway, a wholly owned subsidiary of Reliance Infocomm in 2004 Corporate Catalyst India A report on Indian Telecom Industry Reliance Communication acquired a US based Yipes Holdings, Inc. ("Yipes"), the leading provider of managed Ethernet services in 2007  
**Future Prospect** The company plans to concentrate on mobile content services other than voice. It also plans to spend Rs 5 billion every year for the next three years. This CAPEX will be used for network expansion of its CDMA business to over 4,500 towns from the present 2,000 towns and expansion of its GSM operations. The company also plans to launch international data roaming facility in Canada, followed by Latin America and then to Asian countries like Japan, South Korea, China and other countries.  

**Tata Teleservices**  
**Name** Tata Teleservices  
**Year of Establishment** 1996  
**Company Profile** Tata Teleservices is a part of the $12 billion Tata Group, which has 93 companies, over 200,000 employees and more than 2.3 million shareholders. Tata Teleservices’ bouquet of telephony services includes Mobile services, Wireless Desktop Phones, Public Booth Telephony and Wireline services. Other services include value added services like voice portal, roaming, post-paid Internet services, 3-way conferencing, group calling, Wi-Fi Internet, USB Modem, data cards, calling card services and enterprise services.  
**Sales/Revenues/Turnover**  
**Global Presence/Marketing Network** Tata Teleservices has presence in across 19 circles that includes Andhra Pradesh, Chennai, Gujarat, Karnataka, Delhi, Maharashtra, Mumbai, Tamil Nadu, Orissa, Bihar, Rajasthan, Punjab, Haryana, Himachal Pradesh, Uttar Pradesh (E), Uttar Pradesh (W), Kerala, Kolkata, Madhya Pradesh and West Bengal.  
**Acquisitions / Strategic Alliances** Tata Teleservices has acquired Hughes Tele.com (India) Limited [now renamed Tata Teleservices (Maharashtra) Limited] in 2002  
**Future Prospect** The company is also expanding its footprint, and has paid Rs. 4.17 billion ($90 million) to DoT for 11 new licenses under the IUC (interconnect usage charges) regime.  

**Vodafone**  
**Name** Vodafone  
**Year of Establishment** Acquired majority stake in Hutch Essar in India, by buying out complete stake of Hutch in 2007, Essar is still minority stakeholder in company  
**Company Profile** Vodafone Essar in India is a subsidiary of Vodafone Group Plc and commenced operations in 1994 when its predecessor Hutchison Telecom acquired the cellular licence for Mumbai. Vodafone Essar now has operations in 16 circles covering 86% of India's mobile customer base, with over 45.78 million customers. Vodafone Essar, under the Hutch brand, has been named the 'Most Respected Telecom Company', the 'Best Mobile Service in the country' Corporate Catalyst India A report on Indian Telecom Industry and the 'Most Creative and Most Effective Advertiser of the Year'.  
**Sales/Revenues/Turnover** USD 69,378.08 million (Revenue)  
**Global Presence/Marketing Network** It has operations in 25 countries across 5 continents and 40 partner networks with over 200 million customers worldwide.  
**Acquisitions / Strategic Alliances**  
**Future Prospect** Vodafone Essar is expecting to touch over 35 million customers across 400,000 shops and thousand of hutch’s own employees along with employees of its business associates.  

**IDEA**  
**Name** IDEA  
**Year of Establishment** 1995  
**Company Profile** Idea Cellular is part of the Aditya Birla Group, which is India's first truly multinational corporation. Aditya Birla Nuvo Ltd. holds 35.7 per cent, Birla TMT Holdings Ltd. 44.9 per cent, Grasim 7.5 per cent, and Hindalco 10.1 per cent in Idea.  
**Sales/Revenues/Turnover** Rs. 24,005.50 million (Sales Turnover)  
**Global Presence/Marketing Network** Has a customer base of over 17 million, IDEA Cellular has operations in Delhi, Maharashtra, Goa, Gujarat, Andhra Pradesh, Madhya Pradesh, Chattisgarh, Uttaranchal, Haryana, UP-West, Himachal Pradesh and Kerala.  
**Acquisitions / Strategic Alliances** Merged with Tata Cellular Limited in 2001, thereby acquiring original

**Future Prospect** Idea also plans to enter rural and neglected circles as a strategy to gain subscribers. Other advancements in the telecom industry will help it cut costs - use of e-mail to send bills to customers; sharing cell sites; smaller base transmission stations that will mean lesser infrastructure requirements and expenses and independent tower operators. Along with its plan to go for a national long distance licence, it will also look at international long distance in the near future. Corporate Catalyst India A report on Indian Telecom Industry

![Market Share of Wireless Operators (QE Dec 2006)](image)

**IV. CHALLENGES AND OPPORTUNITIES**

4.1 Opportunities

The telecom sector has been one of the fastest growing sectors in the Indian economy in the past 4 years. This has been witnessed due to strong competition that has brought down tariffs as well as simplification of policy environment that has promoted healthy competition among various players. Due to this reason, telecom density in the country has risen to over 12 per cent at the end of January 2006, from 3.6 per cent in March 2001. The mobile sector alone has been growing rapidly and has emerged as the fastest growing market in the whole worlds. Currently of a size nearing 70 million (GSM and CDMA), this sector is expected to reach a size of nearly 200 million subscribers by financial year 2008. 5.28 million mobile subscribers additions were registered in July 2006, compared to 4.78 million in June and 4.25 million in May. More than 200 million subscribers addition is expected by July 2007. The government has eased the rules regarding inter circle and intra circle mergers. This has led to a slew of mergers and acquisitions in the recent past. Also as the sector is moving closer to maturity, further consolidation is a reality and this will lead to the survival of more profitable players in this segment. In order to further promote the use of Internet in the country, the government is taking proactive steps to develop this sector with the help of the various players in this segment. For this purpose, the use of broadband technology is being mooted and this will go a long way in improving the productivity of the Indian economy as well as turn out to be the next big opportunity for telecom companies after the mobile communications segment. Non-voice services and VAS are the gold mines. The big takeoff is expected with the rollout of 3G services in early 2007, once the spectrum issues are sorted out. Internet users base fast reaching near the English speaking population base. Local language and content required for further growth. Infrastructure equipment cost is down to a fraction of what prevailed just a few years ago. Operators can plan better expansion plan now. Increased viability for the operators to expand to semi-urban and rural markets, hence, accelerate growth further. It’s not without reason that India is tipped to be the world’s third-largest economy by 2050! No wonder if it happens much earlier. Investors can look to capture the gains of the Indian telecom boom and diversify their operations outside developed economies that are marked by saturated telecom markets and lower GDP growth rates. At a time when global telecom majors are struggling to cope with their losses and the rollout of 3G networks, which has been a non-starter for close to a year now; India, with its telecom success story, represents an attractive and lucrative destination for investment.

**REFERENCES**

