

## TELECOM IN INDIA – CHANGING LIVES

By

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India

It took 25 years for India to reach the 1st one million mark of telephones and today we add 7 million phones in 25 days! The country today adds more phones in a month than the entire population of Finland. In fact, we are adding one customer per second during working hours. Now the growth of Telecom Sector in India has surpassed that of China.

A new situation is emerging in India. Very rarely in history have we come across such a constellation of events: an ascending economic trajectory over 7 percent since the past three years, rising foreign exchange reserves now touching over US\$250 Billion, reducing inflation rates at around 4%, global recognition of computer software competence, energy of 540 million youth, umbilical connectivity's of 20 million people of Indian origin abroad, and the interest shown by developed countries to invest in our engineers and scientists, including in new R&D centers. The Governments have been emphasizing economic development by ensuring growth rates of seven-eight per cent annually, enhancing the welfare of farmers and workers and unleashing the creativity of entrepreneurs, scientists, engineers. This opportunity is being fully utilized to bridge the rural-urban divide, using Technology as a tool and Mobile Technology is becoming a boon for India.

India now has one of the youngest population in the world with over 50% under the age of 25 and 85% under the age of 50. Imagine what is the size of the market when the population is over 1 Billion, with a low inflation rate of 4%, consistent GDP growth of over 7% since the last 3-4 years and the Telecom Sector booming at a CAGR of 40%. The Indian telecom sector has crossed \$100 billion in terms of valuation. The valuation approximates to 13 percent of the country's GDP. Given the low telecom, Internet and Broadband penetration rate and high population density, potential for India's wireless industry is huge.

Today India is the fastest growing Telecom market in the world, and stands at third position after China and the US. It has created a technology neutral area with both GSM and CDMA players. In August, 2007 itself, we added over 8.30 million subscribers with wireless subscriber rate crossing 200 million. Worlds most affordable phones are now manufactured in India, bundled with the lowest call rate in the world and highest minutes of usage per subscriber in Asia Pacific.

Telecom reforms in India began in the 1980s with the launch of a "Mission-Better Communication" program. Private manufacturing of customer premise equipment was allowed in 1984 and the Centre for Development of Telematics (C-DoT) was established for the development of indigenous technologies. Private franchises were freely given for public call office (PCOs) that offered local, domestic and international calling services. Two large corporate entities were spun off from the Department of Telecommunications, e.g. Mahangar Telephone Nigam Ltd. (MTNL) for Delhi and Mumbai and Videsh

Sanchar Nigam Ltd. (VSNL) for all international services. Thus began the process of corporatisation of services that had hitherto been under a government department. A high powered Telecom Commission to direct Telecommunication Policies was set up in 1989 with full powers of the Government.

The second phase of reforms commenced with the general liberalization of the economy in the early 1990s and announcement of a New Economic Policy (NEP) 1991. Telecom equipment manufacturing was delicensed in 1991 and value-added services were declared open to the private sector in 1992, following which radio paging, cellular mobile and other value added services were opened to the private sector. National Telecom Policy was announced in 1994, with a major thrust on universal service and qualitative improvement in telecom services and also opening of private sector participation in basic telephone services. An independent statutory regulator was established in 1997. Progressively there was growth in private sector provision of telecom services in the country.

The Process of corporatisation was completed when the Basic Services were also corporatised in the form of a New Entity in 2000 by creating the Bharat Sanchar Nigam Limited.

The most important landmark in telecom reforms, however, came with the New Telecom Policy 1999 (NTP 99) that can be termed as the new, or third generation of reforms. Its first qualitative difference was the acceptance by the government that

telecommunications was a very important service for common man and is can be used as an important driver of economic growth. Government also realized that if above cannot reach the desired level of teledensity of the country which had crouched up to 4. It further liberalized by way of exempting all inputs to Telecom Equipment from the Customs Duty.

By the end of year 2007, 250 Million Telephone connections are the target taking the teledensity to 22, a targets which translates into an investment requirement of US\$15 Billion. By 2010 telephone connections are expected to be 500 Million telephones, requiring an additional investment of about US\$25 Billion. This would also create an additional employment of 0.5 million job. 20 Million Broadband Connections & 40 Million Internet connections are also expected to happen by 2010. The target for the year 2015 is that telephone connections would be about 800 Million, requiring additional Investment of about US\$ 30 Billion. This would also create 1.5 Million jobs.

The liberalization of Indian economic policy, de-regulation of key sectors and progressive moves towards further integrating India with the global economy has been a key driver of increased ICT adoption in the country.

On the Policy front, the Government has announced an encouraging Fab Policy. A proposal for Electronics and IT Hardware Manufacturing Policy is also under consideration, which is aiming for rationalization of Tariff Structure on capital goods, and inputs, unification of manufacturing for domestic market and exports, registration of

international patents, transfer of state-of-the-art technology (TOT) and Research and Development, etc.

Major policy initiatives in the past two and half years such as reduction in licence fee from 15% of revenues to 6% for NLD / ILD licencees, sharing of infrastructure to optimize efficiency, launching of 'One India plan' to allow calls at 'One Rupee' per minute across India and amendment of Indian Telegraph Act to enable USO Fund to support mobile telephony and Broadband services in rural and remote areas of the country, have put the growth on a very high trajectory.

The decision of providing support from USO Fund for mobile telephony as well as Broadband services is going to open up the vast untapped market in rural areas of the country which comprises of 70% population of the country with substantial disposable incomes and aspirations to join the mainstream of the country and share the growth story of urban India in ICT sector. Telecommunication access to rural India is going to be the most important development since Green Revolution and will change the life in rural areas like never before. In fact we are christening the year 2007 as the 'Year of Broadband' in India.

With USO scheme for coverage of rural areas and intense coverage of the country through exciting new disruptive wireless broadband technologies such as WiMAX, it is envisaged to start adding more than one million broadband connections per month before the end of year 2007. This will be driven by seeding the whole country with robust and

ubiquitous network connectivity. As soon as broadband connectivity reaches a critical mass which is expected some times in the middle of 2008, a sequel to success story of mobile growth in India – that of Broadband growth in India will emerge. To trigger this growth, BSNL has come out with an aggressive plan for providing 5 million Broadband connections in the year 2007 itself and that too with minimum download speed of 1 MBPS.

Focus now is on introduction of modern technologies. Various pilot projects on the emerging technologies such as WiMAX, 3G etc. have been launched. The emphasis is on technologies having potential to improve rural connectivity. We expect to provide broadband connectivity in the rural areas in a big way by introduction of wireless broadband services. We plan to provide broadband connectivity in all schools, health centres and panchayats by the end of year 2008. Exciting new applications such as telemedicine, IPTV, Video conferencing, e-Governance, e-Commerce will be available to citizens with broadband availability.

India has become the second-most attractive destination for foreign direct investment (FDI) among manufacturing investors, as per A T Kearney's latest FDI Confidence Index rankings. World leaders in ICT like Intel, Cisco, SemIndia - AMD, Microsoft, Motorola, Ericsson, Nokia, Kyocera, Siemens, LG, Samsung and others, have already set-up or announced large investment plans for India in hardware manufacturing or chip design or R&D or to develop software products. During the last one and half years, all these major world players have announced investments in India to the extent of over US \$ 18 billion. This vividly establishes the investment friendly climate in India.

Telecommunication access to rural India is going to be the most important development since Green Revolution. A unique initiative by the Government to achieve faster rural penetration is the shared wireless infrastructure initiative. Under this scheme, the Government will extend a one time subsidy to operators from the Universal Service Obligation (USO) Fund to set up shared towers / cell sites in rural and remote areas.

### A Fisherman – Changing Lives

The ubiquity of the mobile phones has seen ordinary Indians come up with many innovative uses for the new found connectivity: fishermen working off the Alappuzha coast discovered that the range of their handsets was good for a few kilometres off shore and quickly networked among themselves so that they could all benefit from the seasonal marine bounty known as "chakara"

In choppy, gray seas four miles from shore near India's tropical southern tip, a fisherman spots a huge lot of sardines. He ordered his three dozen crewmen to quickly drop their net overboard. Within five minutes, the cellphone hanging around his neck starts ringing. He informs far inside from the sea that he has medium sized sardines and approximately 400 kilograms. He keeps on receiving calls from all the ports and after around 60 to 70 calls, his boat moves to the best bargained price port with its bounty. He was able to successfully eliminate any middleman between the actual buyer and also get the best price from amongst the actual buyers.

One element of poverty is the lack of information. The cellphone gives poor people as much information as possible. The cellphone is bringing new economic clout, profit and

productivity to Rajan and millions of other poor laborers in India. That explosive growth has meant greater access to markets, more information about prices and new customers for tens of millions of Indian farmers and fishermen.

A convenience taken for granted in wealthy nations, the cellphone is putting cash in the pockets of people for whom a dollar is a good day's wage. And it has made market-savvy entrepreneurs out of shepherders, rickshaw drivers and even the acrobatic men who shinny up palm trees to harvest coconuts here in Kerala state.

The Indian National Centre for Ocean Information Services (INCOIS) on the east coast that records turbulence in the sea, wave height and strength, wind speed and direction, and also the location of shoals of fishes etc by mobile phone alerts.

Mobile phone alert services, police and television news channels also tell people living on the coastal areas about earthquake and that fishermen should remain away from the shore, demonstrating how technology could make the crucial difference between life and disaster, as had happened in the last Tsunami also hitting the Indian shores.

The rapid expansion of mobile networks resulted in many interesting sociological side effects. In a hilly district of Kerala, wireless-backed Internet has been deployed in a people's participatory effort known as "Akshaya" to kick-start an ambitious e-literacy campaign. But in Malappuram town itself, driven purely by consumer self-interest, the total number of telephones — fixed and mobile — quickly exceeded the total population of 59,000, a phenomenon rarely seen any where in the world outside big metros.

## A Grocer – Changing Lives

A fascinating discovery of a grocer in New Delhi proves that buying a cellphone is the best investment he could have ever made for his business, his well-being as well as his family.

Before he had a cellphone, Joshi would start his day at 3:30 a.m. at the wholesale market. He would pick out the freshest vegetables in amounts based on his best estimates of his needs for the day - basically doing his business based on guesswork. If he bought too much, it would all go to waste. If he bought too little, he couldn't fill orders from customers needing a larger amount of goods. By 8 a.m. he would be back at his shady spot where some regular customers came to buy and others didn't. He would then spend the rest of the day, until at least 4 p.m., pedaling through the hot streets, yelling out his vegetables and prices.

Then, in 2001, it all changed when Joshi got his first cell phone. He's still at the wholesale market by 3:30 a.m., but now he buys based on the orders phoned in the night before. He knows almost exactly how much he needs, which has virtually eliminated costly waste, plus he knows when to buy in bulk for parties and weddings. Well over half of his business now comes from phone orders.

With the help of his assistant (which he couldn't afford before he bought the phone) and free deliveries, Joshi's day now ends at around 10:30 a.m. after selling almost every single vegetable off his cart. Joshi said the cell phone has even allowed him to put his two sons – ages 16 and 12 - into schools where they will get a better education.

## Cloth Merchant - Changing Lives

The festival season in India is around the corner, and in a hand-loom weaving center in the central India state, master weaver Sumitra's mobile phone is ringing busily. A garment store in New Delhi wants 500 scarves—the broad, 3-meter-long, intricately designed, fine cotton ones worn across the shoulders by Indian women—in 20 days.

A yarn supplier phones from south India says he's dispatching a consignment of raw material ordered by Sumitra that very evening. Then, an exhibition organizer phones from Mumbai to find out whether Sumitra can put up a stall at the site. It's a huge amount of work for Sumitra and his staff of 35 weavers who are all working 12-hour shifts.

Sumitra is hardworking and enterprising, and she is the first to admit that she wouldn't enjoy her current level of success were it not for his cell phone. She is from the weaver caste—at the center of India's international trade in textiles in the 19th century before it lost out to industrialization. It now occupies India's lowest economic rung. It wasn't so long ago that Sumitra was a small-time weaver and trader, getting piecemeal work and barely eking out a living. But that was before cell phones. Hardly anyone in her town had a traditional wire-line phone.

Then, in 2005, Sumitra spent a precious \$100 to buy herself a mobile phone. It was a huge investment, but Sumitra wagered that it could enhance her business. Did it ever.

Getting connected has allowed Sumitra to become a player in India's reviving textile business and in the booming domestic consumer market. Her business has more than doubled, from \$12,000 in sales to \$25,000 a year. She has her own home and a separate work space, and she has expanded her business—from 15 looms in 2005 to 35 now. The other weavers she employs create 20,000 meters of exquisite hand-woven fabric a year, twice that produced two years ago.

Her success has also enabled Sumitra to become a consumer in his own right. Among her recent purchases are a 21-inch TV set, a Maruti Suzuki car, and a second-hand computer with Internet access.

The phone helps wrap up deals within minutes rather than the two weeks it typically took to get in touch with suppliers and customers through letters and a single wire-line phone at the local village store. It's been a life-changing and time-saving experience for Sumitra.

To understand how much the explosive growth in telecommunications has altered the lives of ordinary Indians, all you need to do is look around cities and the villages that lie close to them. In a growing number of India's cities, particularly the metros, tradesmen and shopkeepers transact business over the phone, usually a mobile device. It is not unusual to see plumbers, carpenters, electricians and the like, handing out business cards with mobile numbers. Until a few years ago, this was unthinkable. Hop across to urban and semi-urban villages, and the picture is not very different; down in the muddy bazaars, vegetable and milk vendors in makeshift kiosks use mobile phones to take home delivery

orders. Farmers use them to share news, check crop prices, learn about new agricultural programmes and talk to relatives in cities. This single device, a potent symbol of progressive de-regulation in India's telecom industry from the early nineties, has expanded incomes of scores of people across the country, made lives easier and more convenient, and generally given the economy a push northwards. Well past midnight, high up in glittering glass and concrete buildings that dot Bangalore, Gurgaon (a Delhi suburb) or Hyderabad, thousands of young people chatter on phones, providing solutions to customers in distant US and Europe, in a 24 x 7 business that spans the IT and telecom convergence space. These are the hubs of the Business Process Outsourcing (BPO) industry, which has played such a key role in making India the world's back-office. When travelling anywhere in this vast country you are likely to see people glued to mobile handsets. From mass-market or second-hand phones to the latest in design and applications, mobile phones have become ubiquitous.

Much indeed has been achieved in so little time. However, many more millions of customers have to be served before the Indian Telecom Juggernaut can even think of pausing.....we will achieve 250 million by 2007, 500 by 2010 and then, a hundred flowers will bloom.

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