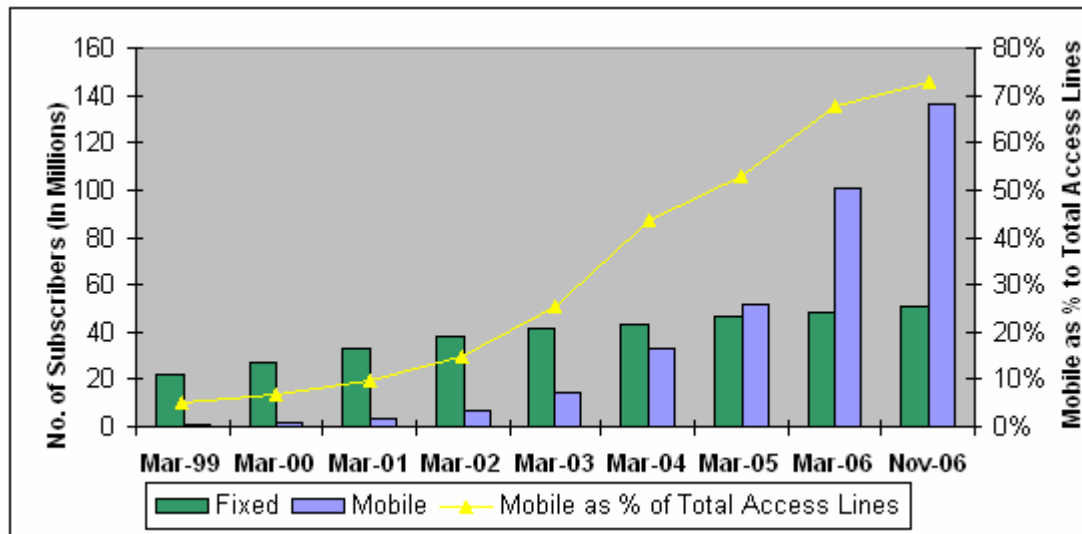


Telecom – the business environment in India

Telecom in India has come a long way from the 90s, where country teledensity was less than 5. Today our teledensity stands at about 17 subscribers per 100 people predominantly due to the Cellular sector, the growth engine of the Indian Telecom sector, which is now adding an impressive 6 million plus subscribers monthly.



Source: COAI, AUSPI & PwC Analysis

The business environment is bullish with Operators optimistic about the growth prospects as India with a population of about 1100 million people has more than 80% of its population that is still unconnected. The Government of India has set a target of 500 million subscribers by 2010.

Mobile: Growth engine for Indian Telecom

The cellular sector continues to be predominantly prepaid, with nearly 80% of the subscribers on the prepaid platform and almost 90% of incremental additions on this platform. This is also an indicator of the increasing addition of marginal subscribers on the network as the network expands to increase its reach. According to estimates from Cellular Operators Association of India (COAI), in the past year, the population coverage has doubled from 30% to 60% and the geographical coverage has increased from 13% to 39%. This increase in coverage is essential both to reduce teledensity disparities existing across various geographies and for maintaining the growth momentum of the sector. This growth has come as a result of steep fall in tariffs with airtimes rates of between 3-4 cents per minute, amongst the lowest in the world. Consequently the industry ARPU (Average Revenue per User) has consistently fallen from USD 29 per month in 1999 to about USD 7 per month per subscriber currently.

Voice still generates 87-90 per cent of revenue and value-added services such as SMS, Ringtones, Wallpaper downloads, Caller ring back tones (CRBTs), text and voice based information services (e.g. news, cricket and astrology information), offline and online games are now gaining in popularity. Operators view this as an excellent opportunity to

increase revenues and are part of a developing ecosystem in the country that also includes content providers, aggregators and technology providers.

The EBITDA margins of the Operators range between 35-40% and the challenge for the Operators is to generate sufficient funds to increase coverage and operate in the semi-urban and rural areas which are remote and spread out and where the revenue per customer is expected to be even lower with higher costs of operations. Mounting infrastructure costs are hastening the entry of a new breed of players into the Indian telecom scene. These are Tower management companies who build, own and operate network towers for various Telcos. They are a given in mature telecom markets, but India is getting to see their advantages only now as Telcos overcome the initial concerns of sharing tower infrastructure with competitors. It is estimated that by sharing infrastructure, Telcos can slash operational costs by 50-60%, and sure enough, a slew of national and international companies are making a beeline into this nascent market.

The outsourcing of network infrastructure by Telcos has developed rapidly in recent years, as they look to improve their financial performance, drive faster growth, reduce time to market, reduce complexity and focus on their core competencies in service creation and delivery. Innovative Telcos such as Bharti and Hutchison have outsourced their network operations to equipment vendors such as Ericsson and Nokia. Bharti has also entered into a transformational initiative with IBM India which includes consolidation, transformation and management of IT infrastructure and applications in terms of provision of IT services, hardware and software for its telecom requirements.

Enterprise Market

Year 2006 in India will also be remembered for the interest shown by a wide array of both domestic and international operators vying for the revamped national and international long distance licenses. A majority of these are intended for tapping the growing Enterprise market for both voice and data connectivity. The enterprise market is primarily being led by the demand for connectivity from the IT, ITeS, Government and the financial service segments. Future growth is expected from the Retail segment where a boom is expected in the coming years on account of large national and international players announcing their plans for entry into organized retailing. Voice over IP (VoIP) is considered one of key applications that enterprise segments in India are reviewing to deploy as a means to lower their operating costs. It has provided impetus for increased demand for IP based virtual private networks (IP-VPN) services in India. IP-VPN market is currently estimated to be about USD 110 million and expected to double in the next three to four years. All the large Indian Telcos and foreign players such as AT&T, Cable & Wireless, Equant, British Telecom etc. are setting up operations to cater to the communication requirements of their local and foreign customers.

Internet and Broadband

Internet services were started in India in 1995 with a supportive Government policy which led to the entry of a large number of private players, resulting in lowered Internet tariffs and a phenomenal surge in the subscriber base to 3 million. This growth slowed down in early 2000s and the internet subscriber base currently is nearly 8 million with broadband connections of about 2 million. The introduction of internet telephony in 2002 also could not provide the required fillip as numerous restrictions were imposed on the

type of the technology and end devices which could be used under the new license. Efforts are now on to achieve the Broadband Policy target of 20 million broadband subscribers by 2010. The issues that are constraining growth are the poor PC penetration, lack of relevant content and the poor availability of viable last mile access technologies. The incumbent BSNL and MTNL together own about 80% of the fixed lines in India and in the absence of mandated local loop unbundling, the industry is struggling to meet the broadband targets set for them. Broadband over cable lines another technology that has been successfully deployed in countries such as USA, has not had a significant impact in India primarily because of our analog cable infrastructure which is in poor condition. Telcos are currently reviewing the techno-economic feasibility of alternative technologies such as WiMax, WiFi and Broadband over power lines (BPL) to increase broadband penetration.

Broadband on mobile also referred to as 3G is also delayed on account of non-availability of spectrum and efforts are on by the Government of India to get relevant spectrum vacated from defense and other government users.

Impact of Convergence

Though a lot of buzz is there around “Convergence” in the Indian industry yet the real gains and services have not materialized in a mass sense due to poor availability of a viable and scalable access pipe that is “broad” enough to carry voice, data and video to the masses in an affordable manner. The Regulator and Industry are gradually resolving related issues of access loop, transmission infrastructure, required spectrum, access devices, content availability etc in order to provide converged service offerings to retail customers. The new services that are expected to be commercially rolled out in this year are mobileTV, instant messaging solutions, push to talk services and IPTV.

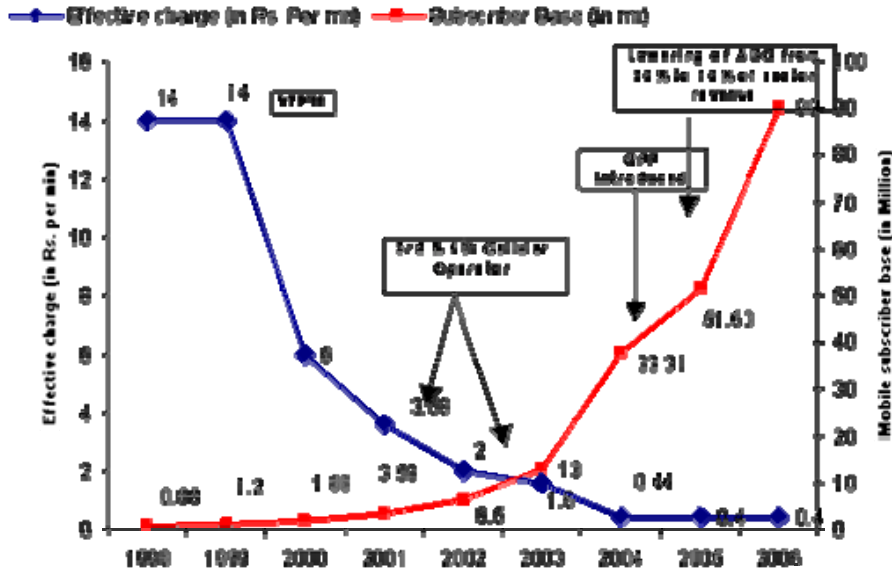
Key Concerns

One of the key concerns of the Industry is that the falling ARPUs experienced by cellular operators could slow down their rollout plans to the remote and sparsely populated areas of India. This could also adversely impact their growth momentum that the whole sector is thriving on. The spectrum allocation and availability issues also need to be resolved in a specified time bound manner for the operators to firm up their business plans for the future. The pending spectrum issues are also impacting the wireless broadband rollout e.g. spectrum allocation for WiMax in India is not on the same frequency on which the bulk world rollout is happening. This coupled with the non-unbundled local loop could result in India falling short of its broadband targets and India being denied the positive externalities and GDP growth that countries such as Korea, China etc are experiencing due to access to broadband internet services.

Role of Government

Since liberalization, the timely interventions carried out by the policy and regulatory institutions of Government of India coupled with the operators initiative has catapulted India into a coveted exclusive club of high telecom growth nations. The chart below shows the impact of interventions: National Telecom Policy 99(NTP 99), Introduction of newer cellular licensees, introduction of Calling Party Pays (CPP) regime and reduction of Access Deficit Charges (ADC) on the cellular tariffs which have fallen by an

unprecedented 90% in the last seven years and have been the driver for the mobile boom in the country.



Source: TRAI Study paper No 2/2005

The increase in foreign direct investment (FDI) limit to 74% up from the previous cap of 49% in the sector coupled with the simplification of the long distance license conditions resulted in a significant increase in foreign investments, wherein the share of telecom in India's FDI rose from 3-4% to 12-15% in the past 12 months.

Going forward, more initiatives in form of reduced regulatory and tax levies and faster resolution to pending critical issues such as spectrum and interconnection is required to keep the telecom growth on course for India and for it to maintain its distinction of having the fastest growing Telecom sector in the world.