

We have seen an unprecedented change in telecom voice usage in India over the last decade. Thanks to some of the key initiatives taken by the Government of India during 1990s by opening up the market for external players as well as increasing the FDI from 49 per cent to 74 per cent for telecom during 2004-05 budgets; many players entered the Indian telecom market bringing in the much needed investment for this sector.

The favourable market conditions and regulatory environment has led to tremendous growth with around 400 million plus mobile subscribers in urban areas and around 200 million in rural India. With four to five competitors in every circle, there is a fierce price competition to grab the share of the existing market pie resulting in plethora of attractive product and service offerings for the subscribers at competitive prices, making mobile voice services more affordable for mass population. It is, therefore, not surprising to note that fixed lines are declining with the surge in mobile penetration rates both in urban and rural India.

The yellow PCO/STD booths which were a common sight at every corner at the beginning of the century are hardly seen now!

However, the revolution seen in the mobile voice market is not reflected in the broadband sector. The growth in broadband penetration is merely 0.8 per cent is not satisfactory when we look at other Asian neighbors such as Vietnam (1.5 per cent), Japan (21.3 per cent), South Korea (29.9 per cent) and China (5 per cent) where the broadband access figures are much better. (Source: TRAI press release on 8th December 2010 TRAI issues Recommendations on 'National Broadband Plan'). Being the fourth largest economy behind USA, China and Japan in terms of purchasing power parity, which is mainly driven by services, inbound investments and consumption, there is plenty to do over the next four to five years in terms of infrastructure and planning to revolutionize broadband access in India.

Recent initiatives from TRAI:

The lopsided growth of broadband in a country with only 0.8 per cent broadband penetration while the teledensity reaches 60.99 per cent has caused some bit of concern in the TRAI as it failed to meet the target of 20 million connections by 2010. The current broadband subscriber base is around 10.3 million of which 60 per cent is concentrated in metros and tier2 cities (Source: TRAI press release on 8th December 2010 TRAI issues Recommendations on

'National Broadband Plan'). But there is a greater divide in broadband availability between rural and urban area. Higher cost of wire-line infrastructure and non affordability of computers by the rural population has added to the sluggish growth in broadband sector.

Though over 10,000 internet cafes are spread across the country and are reaching out to some 60 million users from cities to rural areas, there is still a long way to go to achieve the kind of growth the government wants to see in this sector. This is specially needed after the government has identified broadband as an essential infrastructure for the rural population to provide better access to education, health and banking facilities. Also, studies in developing economies have shown that a 10 per cent increase in broadband penetration leads to 1.4% rise in per capita GDP. Keeping all these statistics and findings in mind, TRAI has recommended to set up a national broadband network at a cost of 600 billion, which will help in implementing open access optical fiber network connectivity to all habitations of 500 and above.

Subsequently, TRAI has revised its broadband plan to achieve a target of 75 million connections by 2012 and 160 million by 2014. Out of this, 40 per cent will be wireless broadband. This network will be financed by Universal Service Obligation Fund (USOF) and the loan will be given by the government. All telcos contribute 5 per cent of their annual revenues towards this fund which is used to support rural telephony.

Current Trends in broadband market:

Internet usage is growing strongly in India with more and more users preferring to use it for paying bills, banking, email, music download, stock trading, education, medication, local classifieds, google map, entertainment, travel, job and matrimonial search etc. DSL is one of the major broadband access technologies (almost 75 per cent) but now it is losing market share to wireless broadband.

Mobile market is expanding at a phenomenal rate and with lesser or no growth in wireline voice, a cross over to mobile broadband looks like a viable option. This is mainly because access devices cost is decreasing considerably in the competitive smartphone market. Besides this, the government of India has gone a step further by announcing availability of low cost PC tablets (in the range of \$35 to \$50) by mid 2011. Some of the notable developments in Indian broadband space are:

- Broadband subscriber base is 10.3 million as on September 2010
- Current household penetration is 3% which is inadequate considering the middle class and high class population of India
- Mobile market is continuing to grow at an annual rate of 40%
- GSM is the dominant mobile technology with 80% market share and rest with CDMA making it ideal base for migrating towards LTE based wireless services
- India finally held its much anticipated transparent auction to assign 3G and BWA spectrum which will set the ball rolling for a competitive and ubiquitous wireless broadband market
- Operators already initiated talks with major network vendors like Samsung, Ericsson, Motorola, ZTE and Huawei to discuss plans for implementing 3G & 4G technology

Players in Wireless Broadband market:

In September 2010 government of India allotted 20MHz BWA spectrum to the following operators:

Private players

Total BWA Circles allocated

InfoTel Broadband

(Reliance India Ltd holds 95% stake in this company)

All 22 (Pan India)

Aircel

8

Tikona

5

Airtel

4

Qualcomm

4

Augere

1

BSNL & MTNL have already been allocated combined pan India BWA spectrum for all 22 circles by the government of India prior to auction. BSNL with 20 and MTNL with two circles.

These operators have the option of choosing EV-DO, HSPA+, Wi-Max or LTE technologies to implement wireless broadband access. More and more GSM and CDMA operators are showing inclination towards LTE considering that this technology gives them natural evolution to the high speed technology as compared to Wi-Max. However, LTE is still in the standardisation process and will take at least three to four years to become commercially available whereas Wi-Max is available today. Wi-Max offers a simple all IP architecture based solution with lower CAPEX and OPEX and looks like a good option for the Greenfield operators.

The Wi-Max Forum is working towards making Wi-Max devices interoperable with impending LTE technologies to help operators to migrate to LTE in future. Wi-Max has the opportunity to reach out to the rural population in a cost effective way in meeting the TRAI target of 160 million subscribers by 2014. This would also require the availability of 4G based handsets and modems in major access devices. The government is already thinking about removing tax on these access devices to meet its pan India targets.

2G and 3G players are already providing HSPA based internet access. But going ahead, they will face tough competition from BWA operators in coming years with high speed access to internet. These operators might also influence government policies to allow Voice over BWA to provide voice services in addition to data by having partnership with service providers like Skype.

Opportunities in wireless broadband area:

In conclusion, with a greater thrust from the Government of India and conducive regulatory environment provided by TRAI, there is a huge opportunity for wireless broadband operators to cater to the untapped broadband market in both urban and rural India.

One of the challenges will be putting the basic infrastructure in place. But with the USOF and loan assistance from the government, the progress in this direction should be faster in order to meet the targets set by TRAI for 2012 and 2014.

In the long run, we would see the different types of wireline and wireless broadband technologies to coexist and serve different segments of customers based on access type, QoS and speed requirement. However, it will be the first mover who is going to gain the most from this underserved market with the right mix of products, service and tariffs.

Wireless service providers seem to be at an advantage when it comes to deployment of infrastructure as compared to wireline. 2G service providers having 3G licenses are quickly rolling out 3G based services and already have the infrastructure in place, hence they are well positioned to quickly acquire a major chunk of broadband market with their well established brand name and upgrading themselves to HSPA+ based high speed broadband technologies. They can then think of moving towards LTE as 3G provides easy migration towards LTE technology and maintain their user base.

Other Greenfield operators who want to capture high speed subscriber market segment and build loyal initial subscriber base can opt for the readily available WiMAX technology rather than waiting for LTE technology mature and commercially available for use. As most of the BWA operators are new, they need to work swiftly, and, in parallel at multiple fronts on technology selection, implementation and brand building to capture the market share and realize quick ROI before it is too late for them.

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