

The Current and Emergent Wireless and Business Landscape

Wireless and broadband services are going to drive the future telecom services. The regulators, operators, and customers all agree with this. However, what is not clearly understood are the exact contours of the future technology and business landscape.

It is almost impossible to predict the technologies that will emerge as dominant ones. The path towards dominance is driven by customer requirements, technological developments, emergence of standards, regulatory oversight and strong business rivalry. In this context, regulators and operators used to delivering services in a voice dominated arena, characterized by one or two dominant technologies will find it difficult to come up with frameworks for the future.

Many regulators will find that their paradigm of exclusive, long term allocation of spectrum allocation that treats each service separately and individually is not only outdated but also problematic. When new services and technologies are to be introduced they attempt to create patchwork modifications so as to be close to the status quo. Thus each new service is treated separately, instead of adopting a holistic forward looking framework that also incorporates future changes. Often such a move may be prompted under pressure of existing operators who feel threatened by the changes. Examples in the past include, introduction of CDMA operators through the WLL-LM route, continued uncertainty about the allocation mechanism for 3G services, disparities in licences fees across circles, NLDOs etc. While these issues have ultimately been “sorted out”, the delays have taken their toll and reduced the rate of growth for the Indian telecom sector.

TRAI will have to recognize that the emerging wireless scenario will be characterized by:

1. Increasing focus on shared use of spectrum
2. Competing technologies in the same band (3G and Ultra Wide Band, agile radios, WiMax)
3. Convergence of media
4. Customer demands

Implications for TRAI

1. Making more spectrum available for commercial use: This must be done in a mission mode. Spectrum reassignments from the government /defence agencies to the commercial pool have been done in a number of countries in a time bound manner (Refer to my paper on Framework for Spectrum Management)

A review of the past experiences in many developed countries and China indicates that these administrations could provide extensive amounts of spectrum, after working out with the respective government organizations.

Surely, India should be able to do the same, if we have the political will. The process of vacating the defence spectrum in the US was far more stringent than our processes, and yet the NTIA and FCC managed to provide substantive additional spectrum for commercial operations.

2. TRAI must move away from a predominantly “mobile” focus to undertaking a comprehensive review of spectrum. The future road map should also refer to refarming and a variety of services including digital broadcasting and the consequent implications for possibly greater availability of spectrum. Until now, TRAI has been undertaking band specific reviews.

Driven by the enormous economic opportunities presented by the growth of wireless, technological change, and a move towards greater deregulation, several regulators, including the FCC, Ofcom etc had announced strategic review of spectrum management and come out with policy documents that lay the grounds for new instruments and review of how the spectrum needs to be managed for the future. The need for developing countries, especially India, to take such an approach is significantly higher, not only because it is seeing substantive growth in cellular in a scenario of spectrum shortages, but also because wireless allows the possibility of a cost effective way to link its rural communities.

In both cases, the focus is on a strategic review of the spectrum allocation and management processes, rather than on details of spectrum allocation in specific bands. Both want to move towards greater allocation to license exempt bands, and where that is not possible, to use market mechanism for allocation of spectrum. Also, both the reviews specify a market mechanism for allocation of spectrum in new bands (auctions) and a progressive approach towards greater flexibility to service providers regarding the services that may be provided using spectrum. Both Ofcom and FCC Task Force states that their effort would progressively move from “command and control” to reliance on market mechanisms and greater use of license exempt bands.

A key basis of the review was the recognition that the legacy command and control regime had led to many portions of the spectrum not in use for significant periods of time and there was significant scope to improve the use of “white spaces” both geographically and temporally.

There was a recognition that different approaches would be suitable for the various parts of the spectrum. The Reviews laid out a roadmap for the transition from a predominantly “command and control” models to greater license exempt and market mechanisms.

The major recommendations of the FCC working group and the Ofcom Review were:

- No single regulatory model should be applied to all spectrum. Some parts to be granted exclusive usage rights based on market mechanisms, part to be governed through “spectrums commons” approach and limited use of “command and control”.

- Migrate from the predominant command and control to the market oriented exclusive usage and spectrum commons approach in a given time frame.
- Adoption of technology and application neutral approach towards licensing and usage of different bands.
- Subsequent to the reviews, many countries have adopted spectrum trading and leasing as instruments to enhance the market oriented approach (US, UK, New Zealand, Australia, Guatemala). The empirical evidence is that a well designed market mechanism works well to address the concerns of emerging technology and business trends.

The other elements of such a review should be:

- a. Priority for applications/services that allow shared use, rather than exclusive use.
 - b. Allocations to be based on market demands while ensuring adequate spectrum availability for public interest use.
 - c. A fixed amount of spectrum to be made available at one go at the time of licensing or clear time period to be made known regarding the availability of spectrum.
 - d. Make as many bands available for commercial services as possible. For example ITU has identified a number of bands for 3G services.
3. TRAI's recommendation of moving towards a technological neutral regime is welcome and forward looking. This needs to be done for all aspects of operation, such as allocation, revenue share, entry fee etc. However, linking the spectrum allocation to the number of subscribers is problematic, as in the present scenario, the basis of allocation is different across GSM and CDMA operators. Linking subscribers to the amount of spectrum is based on assumptions regarding the network architecture, demand, chosen technology etc. These are best left to the market to decide. Since TRAI has suggested moving away from the technology specific regime, it should provide a time frame within which this could happen. DoT needs to concur with this new in terms of forward looking practices
 4. TRAI should adopt spectrum trading and thus allow a secondary market to emerge. This will allow the market to form appropriate aggregations quickly. For the spectrum trading to emerge, specific services tied to bands (2G services in specified bands only, restrictions on providing in band enhancements etc) will have to be done away with.
 5. TRAI must first develop a framework for the same. There is lot of experience on the ground, and the lessons learnt from it should be useful for providing the starting point. There are regulatory concerns regarding spectrum caps,

Q 2: Market Dominance: The market share assessment should be based on revenue as:

- Revenue figures can be supported by independent audit of financial data.
- Number of subscribers can give a false market share because of large differences in volumes of minutes purchased by them
- Number of minutes sold is flawed, as these may be differentially priced.
- Basing it on subscriber criteria is difficult since there is incentive for operators to fudge these numbers

Q4: If TRAI purports to be technologically neutral, then the answer is obvious. The cap on spectrum can not be different for different technologies. Right now the current practice is to examine the caps only in the context of mobile, but in the emerging scenario, when other wireless services are rolled out (say WiMax etc), then are we going to have different limits for different types of technologies and the problems that would arise if operators across two technologies wanted to merge.

Way Out for TRAI

Implications for Regulations

Should New Players be allowed to Bid for 3G: The Case for New Entry

Rekha Jain

Indian Institute of Management, Ahmedabad

While the logic of new entry has been the need to bring in innovation and greater competition for better service quality delivery, the other side of the argument is that 3G has been seen by some as an extension of 2G, 2.5G and 2.75G services and hence there was no need to consider review fresh entrants. Many regulators have used the latter approach to initially allocate 3G licenses to existing service providers and have later brought in new entrants. However, other regulators, even while adopting the approach that 3G is an extension of 2G, have not precluded new players. In Philippines, while the NTC (the regulator) viewed 3G as “improvements” over 2G, it did not preclude new entrants. Out of the four 3G bands awarded, one was given to a new entrant, on a competitive basis. In UK, at the time of 3G auction, there were four existing players. Five bands were made available, of which one was specifically kept aside for new entrants.

Indian mobile and UASL providers have generally been arguing against the entry of new players in 3G. This has primarily been driven by their inability to get adequate

spectrum for their current operations. Had it been possible to acquire spectrum (a definite amount over a specified time frame), then their arguments for limiting 3G to only existing 2G players may not be as strong. In fairness, the government needs to act fast on spectrum availability for current and future services.

If new entry is allowed, it must be facilitated through an enforceable interconnection with incumbents. In UK and Philippines, there were mandatory requirements for the incumbent to interconnect to the new entrant, even though it required modification of existing licenses of two incumbents.

TRAI recommendations state that only licensed telecom service operators will be eligible. However, it is not clear whether this excludes other operators (say ISPs). In case there is a more liberal interpretation, it is conceivable that other firms wishing to get in to 3G provision would seek partnerships with existing service providers leading to mergers and acquisitions and possibly greater consolidation over time. Such a scenario will lead to better services and choices for the consumer.