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BOOK REVIEW

The Telecom Revolution in India: Technology, Regulation and Policy; S. Varadharajan; Oxford University Press; 2012; pp. 352; price: Rs 750.

This is an interesting and timely book which gives information both on the technology and business of telecom, and the licensing, policy, and regulation of it in India.

The book gives a description of the various organs of the telecom bureaucracy in India, comprising the Department of Telecom (DoT), the regulator i.e. Telecom Regulatory Authority of India (TRAI) and the appellate body, Telecom Dispute Settlement Appellate Tribunal (TDSAT). While DoT controls licensing and makes policy, TRAI makes recommendations on policy to DoT, monitors its implementation, and advises on enforcement. Unlike other regulators, TRAI has no regulatory or policy making line functions. There is some jurisdictional ambiguity between TRAI, DoT and TDSAT. While TRAI's decisions are recommendatory only, by the TRAI Act, DoT is bound to seek TRAI's recommendations, but can decide on its own. Even in the monitoring of firms and the enforcing of rules, where the very word "regulation" should imply that authority should vest with TRAI, TRAI has only recommendatory powers in levying fines and revocation of licence for noncompliance, making it effectively, a paper tiger. In a marriage metaphor, the operators are the bride, the DoT is the groom and TRAI, the priest, who chants the mantra for a good offspring! On the upside, TRAI has no line responsibility and consequently need not worry about CBI raids—unlike the Ministry—although it was asked to clarify its past recommendations on 2G spectrum auctions, by the CBI in the 2G scam.

In tariff setting itself, TRAI has exercised forbearance in setting retail tariffs, because of vibrant competition in an oligopolistic market.

However, it has set mobile termination charges (MTC), and thereby introduced a monopoly element with the possibility of the call receiving operator exercising market power.

The telecom revolution in India, with the lowest call charges in the world, and the largest growth of subscribers, is due to the diligence of the telecom operators on the one hand and the lowest MTC rates coupled with the calling party pays (CPP) regime. Both were introduced by TRAI.

The book traces the evolution of telecom in India from being a government department, when teledensity was 1–2% and the waiting line for a telephone connection was long, and the telephone was a status symbol, to its current state of being a regulated monopoly, where households that don't even have toilets have mobile phones, thanks to competition and the animal-spirits of the private sector. The book also highlights the political economy of the telecom evolution, detailing how in the initial stages, the government techno-bureaucracy (the Indian Telecom Service) did not let its own offsprings, Mahanagar Telephone Nigam Limited (MTNL) and Videsh Sanchaar Nigam Limited (VSNL) flourish, weakening them through inbreeding and bureaucratic indifference. (Mahanagar Telephone Nigam Limited and VSNL are two corporatised versions of the Department; the former operates in the metros of Delhi and Mumbai, while the latter was in charge of international operations.) In light of this, the book could have covered the story of the other state public sector firm, Bharath Sanchar Nigam Limited (BSNL), which operated in all other circles and lost its first mover advantage and network externality benefit.

While the book elaborates in detail on the history of telecom development and policy evolution, it is not as lucid as one would like it to be, in explaining theory. For instance, the author asserts that Access Deficit Charge (ADC), which acts like a tax, can cause a dead-weight loss by incentivising the customer to substitute the regular telephone call (which attracts the ADC) with cheaper and lower quality Internet calls. While it is standard theory that any tax would lead to dead-weight loss, how substitution per se leads to it is not clear; and neither is the argument that non-payment of ADC would have the effect of 'cascading' dead-weight loss. The subsequent arguments discussing lump-sum versus revenue share also lack clarity and theoretical basis. Earlier in the book, while discussing models of growth, the author gives some formulae without derivation or explanation. Such abrupt inclusion of equations and formulae detract from the learning value.

In discussing the valuing of spectrum, the author avers that "in order to achieve economic efficiency, a combination of allocative and technical efficiencies should be achieved". However, economic and allocative efficiencies are the same, and technical efficiency is a subset of economic efficiency.

The discussion of the optimal combination of inputs, i.e. Base Transreceiver Station (BTS) and spectrum is an important one, and while the author is right in lamenting

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the shortage of spectrum available in India compared to other countries, conceptual clarity on how the optimal input combination is achieved based on equi-marginal productivity per rupee of each input has not been brought out. A related issue is the fact that spectrum is available neither continuously nor in marginal quantities for the firm to buy. How other countries tackle this question is an interesting one. This may perhaps be the reason for higher cost in other countries (excess capacities in inputs, and some mismatch from optimal input mix between spectrum and BTS). There are also typos, such as "The BTSs consume electricity to the tune of about 1 KWH for a minimal configuration" (possibly the author means 1 kW).

On the whole, the book is rich in information and data on the conceptual and theoretical aspects, but from the perspective of a technologist and an economist-cum-manager, it has scope for improvement. It is a good starting point, and a necessary resource for MBA students wishing to enter the telecom sector, and for others interested in telecom as well.

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