Need for True Broadband for Virtual Delivery of Education

A National Broadband Plan (NBP) can Deliver True Broadband Service Essential to Enhance Gross Enrolment Ratio (GER) Quickly through Low Cost Education Model

1. India needs to train 150 million children in education and vocational courses in next five years. These children are not covered by the low availablity of physical infrastructure of schools, colleges, universities and institutions.

2. Minimum of 4 mbps is required for rendering a school, college, university or institutional level class as a virtual delivery on PC over TV with remote as phone and keyboard and a camera employing vernacular video as a medium of communication.

3. Gross Enrolment Ratio (GER) is so low as young people are opting for work from 9 am to 5 pm to supplement the family income after their schooling, e.g., call centre, field sales force, repairs and maintenance of home utilities etc. However, all these young people are available from 8 pm to 11 pm every day, seven days a week.

4. A 40 minutes subject class for virtual delivery requires more than 1 GB of download/streaming of near real time interactive audio/video/text/graphics data through two way IP TV transfer mode in less than an hour. Therefore, no mobile broadband in the world can be deployed commercially to service such a requirement on mass scale. The only way this can be delivered is through true broadband service. Thus, Ultra Low Cost (ULC) broadband infrastructure can be realized on ground by exploiting 140 million homes wired for HFC CATV.

5. The synergy between big telcos who are ultra strong in core and/or edge networks as also back end of OSS/BSS/CRM/Pre-paid/SD but ultra weak in access and MSOs/LCOs who are ultra strong in HFC CATV access network going to 140 million homes but ultra weak in core, edge and back end is the most viable option. This interconnection of two networks i.e., telcos and MSOs/LCOs has the potential to realize ULC broadband infrastructure for true broadband service at a pittance of the capex in world's fastest and cheapest roll out and delivery. This alone can get India 10 % broadband penetration yielding 1.4 % rise in GDP growth in about 3-5 years time.

6. The back end work of studio for school, college, university and institutional class rooms for rendering their virtual delivery on PC over TV would automatically start coming up commercially akin to the data center business. The schools, colleges, universities and institutions simply lease this class room studio infrastructure and the virtual delivery of education starts at the world's lowest cost of education model emulating the famous low cost operating models of Managed Capacity (MC), Managed Services (MS) and Managed Distribution (MD) which 100 % telcos are following successfully in India. Now even in mature telecom markets, the carriers have started adopting similar low cost operating models.

7. National Program for Technology Enhanced Learning (NPTEL) which started in 2003 needs to be revamped quickly. A fast track program to roll out true broadband service under the National Broadband Plan (NBP) will attract the entrepreneurs into class room studio infrastructure business akin to the data center business. All private institutions would simply latch on to this great opportunity as ULC availability

of true broadband and class room studio infrastructure becomes ubiquitous. This will promote virtual degrees in an auto pilot mode just like the proliferation of mobile telecom services. The high quality instructional material available to only IITians and top institutions today would be also available to all at a pittance of cost through competitively priced inter institutional exchange arrangements which would become the norm. Imagine, when true broadband starts coming up, it galvanizes the whole education industry into a competitive business with top quality. The government does not have to do much in education regulation akin to mobile boom and thus use its management bandwidth for more productive work.

8. To sum it up, the only way India can become No 1 country is to fully exploit the parallel build out of national physical infrastructure of roads, ports, airports, rail, power, education, health, agri, BFSI, and most importantly e-governance, not for the issue of birth certs, land records, rail reservation etc alone but most importantly for Govt approvals, certifications, acceptance, tendering, ordering, payments etc. Only then we would have a corruption free GDP growth just like Denmark who has demonstrated to the world as to how by avoiding face-to-face meetings with Govt officials and making the approvals, awards of contracts, payment process faceless through e-governance, they are the least corrupt nation in the world. If we also have this, no one will ever get away from the law of the land as scamsters would always leave indelible traces of their misdeeds which are fool proof enough to prosecute them and deliver justice in a reasonable finite time of 6-12 months.