ABSTRACT

GDP of a nation, some would be surprised to know, is affected by the extent of Broadband deployment of a nation. When one accesses the internet at a high data rate, one commands the power of information availability and fast virtual transactions. This gives a tremendous boost to the economy, spanning all sectors. This encourages Telcos to further augment their infrastructure which leads to a cyclical impetus to development in the nation, resulting in increased GDP. Broadband Wireless Access (BWA) is, simply put, providing Broadband (ie. high data rate) connectivity for Internet/data (as being different from Voice) without the use of wires, ie. through the wireless medium, ie. free air, ie. with the help of Radio transmission and reception.

Reliance Industries, Bharti Airtel, Aircel and Tikona Digital amongst other telcos had won 20 MHz of 2,300-MHz spectrum in each circle for BWA services. Bharti is the only company that has already launched services in a few cities, while RIL holding a nationwide 4G network licence, expects to launch services within a year. Mukesh Ambani - chairman of parent company Reliance Industries (RIL) - told investors in June 2013, that the company had far reaching goals for the next year. These firms along with BSNL had together paid Rs 38,543 crore for three blocks of spectrum, and they have been sitting on this major chunk of spectrum for the last three years obtaining no Returns on a very huge Investment.

This thesis is entitled “Management of Broadband Wireless Access in India”. The aim of this study is to source data that would help predict the acceptance of BWA technology pan India. A thorough appreciation of the findings may help practitioners to analyse the reasons for resistance toward the technology and would also help to take efficient measures to improve user acceptance/usage of the technology.

This thesis:

1. Reviewed literature in respect of Technology, Regulation, Business/Operator aspects, and Security pertaining to BWA.
2. Studied Spectrum, Regulation and Technology issues connected with BWA in Other Countries.
3. Researched literature pertaining to wireless data driving the uptake of BWA.
4. Studied various issues related to Pricing Strategies and Package Plans in respect of wireless data.
5. Examined the current status and trends of BWA worldwide.
6. Reviewed previous literature in respect of eight prominent technology acceptance/ social behavior theories and models.
7. A research model of technology acceptance was formulated regarding usage of BWA in India.

Primary data was collected by using the questionnaire survey method from 50 Telecom Industry professional/academics and 200 Users/Potential-users of Broadband. The survey yielded 247 usable questionnaires. The 5 point Likert scale formed the basis to analyse data. As far as the Industry is concerned, the research was based on issues/parameters like Spectrum, Technology, Pricing, Customer perceptions etc. The research model for the Users was formulated with six core constructs of usage/adoptions of technology, viz, Perceived Ease of Use, Perceived Usefulness, Facilitating Factors, Social Factors, Cost Factors and Quality Factors.

The findings from secondary research show that there are a large number of bands and two technologies available for LTE and in India there is still uncertainty about the path ahead. Security, as in the internet, will be of real concern as IMT - Advanced networks have open architectures and protocols are primarily based on IP. WiMax is on the way out, and an elaborate and comprehensive system has evolved worldwide that aids in fast deployment of complete LTE infrastructure solutions favouring both the TDD and FDD technologies. Smartphones and data-intensive tablets will be the force-multipliers for the deployment of these networks. To make a success of this venture, service providers will have to bring to table a savvy mix of nimble pricing and consumer delight.

As far as the findings of the Industry are concerned, the Industry is getting ready to implement the new technology, but apparently with a bit of a prayer on its lips, perhaps because of the 3G experience. Confidence in the Government is low as is evident from the response to the issues related to Spectrum. They are also not banking too much on the effusiveness of the customer for its ready adoption. The positives, however, were there in relation to Roll-outs being accorded
reasonable priority by the operators right through 2013 to 2016, the operators enjoying an optimistic attitude towards Connectivity and Infrastructure, agreement on reaching settlements with OTT players and a good deal of agreement on increased uptake of BWA if the packages and devices were reasonably priced.

From the findings pertaining to the Users, four core constructs: perceived ease of use, perceived usefulness, quality factors and facilitating factors pointed towards adoption of BWA in respect of the Users. None of the core constructs pointed towards positive usage behaviour amongst the Potential-users. Three core constructs: perceived usefulness, facilitating factors and quality factors favoured adoption of BWA as far as the overall population is concerned. If all six core constructs are taken into consideration, the current users of broadband may still be inclined to take-up BWA, but the potential-users, as well as the total sample seems to have given the uptake of BWA a thumbs-down.

In conclusion, LTE, in both FDD and TDD, would be the preferred BWA technologies of the future, and the users may also surpass wireline broadband subscribers. BWA is the future, and its specifications are the differentiators, thus operators should go the whole hog by investing in infrastructure to provide customer delight. Operators must prepare for a variety of challenges including increased data usage, more services depending on the cloud, and development of VAS across communications, content, health, education and commerce. Operators must come up with a variety of content, with some quotient of localization. Some percentage of content should also be available in regional languages.