CHALLENGES AND SOLUTION IN PROLIFERATION OF PUBLIC WI-FI TECHNOLOGY IN INDIA

In India, with the rapid growth in the wireless subscriber base, the mobile platform is being used to provide a host of new applications like m-banking, e-education, m-health, data transfer, social networking platforms, online gaming, mobile TV etc. As noted above, while globally, the proliferation of public Wi-Fi network has registered an exponential growth; in India the growth has only been moderate.

Wi-Fi technology holds much promise for a country like India which is intent on achieving universal access to information and communication technologies for its population, both in densely populated urban areas as well as remote rural areas where the telephone or cable infrastructure are not yet fully deployed.

SUMMARY OF FINDINGS/RECOMMENDATIONS

The challenges and hindrances in the growth of Public Wi-Fi services in India are as follows:

1. Availability of Unlicensed Spectrum

2. Business viability and incentives

3. Logistics of deployment of public Wi-Fi

4. Lack of Best Practices and Rule Book

- **Regulatory/licensing or policy measures are required**

to encourage the deployment of commercial models for ubiquitous city wide Wi-Fi networks as well as expansion of Wi-Fi networks in remote or rural areas

1. De-licensing Spectrum

2. Long Term Policy Visibility

3. Unambiguous policy for Entry and Exit

4. Support infrastructure – government application; affordable devices; local language content etc.

5. Awareness Program

6. Support for budding entrepreneurs and new business models

THE RESEARCH

According to TRAI, India had 350 million internet subscribers in June, 2016 with 93.9% via mobile wireless and just 5.92% via fixed line connections (See Figure 1).
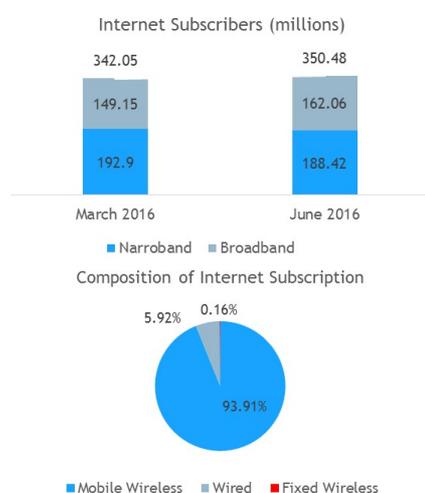

Figure 1: Internet Subscribers

Also the penetration of internet in urban India is around 59% as of June 2016, while the pentation is just 13% in rural India creating a huge disparity. Also the Internet revolution in India is largely fueled by mobile devices.Hence, to ensure proliferation of broadband, optimum use of wireless technologies, especially Wi-Fi is essential.

India currently has 30,000 public hotspots out of over 6 million in APAC region. Public Wi-Fi hotspots are predicted to grow by 13.23% in 2013-18 according to world broadband Alliance. In order to support the growth in data consumption and bringing more people online public Wi-Fi Systems can play a very important role in coming years.

The Indian government recently announced the Digital India initiative that aims to transform India into digitally empowered society and knowledge economy. The target is to provide internet connection to every citizen in next 3-5 years. The

minister of IT and communications recently announced "India is set for a "digital revolution" as it implements an $18 billion program to expand high-speed Internet access and offer government services online."

Although Wi-Fi networks are affordable and scalable, yet there are technical and legal obstacles that have to be surmounted to ensure effective adoption of this technology as a means for bridging the digital divide. Legal and policy challenges in this context include ambiguity around the law governing Wi-Fi networks.

Several countries have already made changes in regulations to allow 60 GHz band for unlicensed outdoor use including the US, UK, China, Australia, South Korea and Singapore.

India is currently investing in fiber optics network till Gram Panchyat level which can be costly and the government must use other enabling ways to improve the penetration of broadband. As per TRAI the cost per MB of Wi-Fi network is around INR 0.06 per MB, much lesser than the mobile wireless data, this makes an economic case for Public Wi-Fi Network. However there are challenges in the form of regulations and policy which are hindering the growth of Public Wi-Fi services in India

- Ambiguity of Regulatory Framework
- Availability of Unlicensed Spectrum
- Business viability and incentives
- Logistics of deployment of public Wi-Fi
    - Customer log-in experience
    - Access by international travellers
    - Infrastructure sharing/ Roaming facilities
    - Payment Procedures
    - Stability in Quality of Services

Measures to encourage the deployment and expansion of Wi-Fi networks in remote or rural areas may be taken as follows:

- Specialized Class of Operator
- Long Term Policy Visibility
- Unambiguous policy for Entry and Exit
- Support Infrastructure – Government Application; Affordable Devices; Local Language Content etc.
- Awareness Program
- Support for budding entrepreneurs and new business models.

The most important step is to delicense the 60 GHz spectrum and allowing entrepreneurs to offers services in this segment. TRAI has already recommended that the V Band (57-64 GHz) should be delicensed for indoor and outdoor based access applications like Wi-Fi hotspots etc. Unlicensed outdoor use of this band for backhaul must also be included, with defined power limits, as several other countries already have. They should also consider license-exempt use in the 64-71 GHz, and inclusion and expansion of 5 GHz band for Wi-Fi use.

Apart from this support by government in terms of providing ease of entry and clear exit options to new entrepreneurs in this area can bring new energy and capital in this segment which may lead to a rapid growth in terms of user addition.

Widespread Wi-Fi deployments, in turn, will have significant socio-economic impacts, including reduction in commuting, traffic, pollution, noise, increases in jobs as well as efficiency, and a general improvement in quality-of-life.

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