



Liberalized Public Wi-Fi Hotspots

A Great Opportunity to Boost the Local Entrepreneurship ecosystem & attract Large Investments

Contents

EXECUTIVE SUMMARY	2
INTRODUCTION	4
NDCP TARGETS	6
ROLE OF WI-FI IN ACCELERATING BROADBAND IN INDIA.....	7
FEW EXAMPLES OF MONETISATION FROM PUBLIC WI-FI	9
KEY BENEFITS	11
OTHER BENEFITS.....	11
UNLICENSED BAND FOR WI-FI USAGE IN INDIA	12
WIRELESS ACCESS NETWORK INTERFACE (WANI).....	13
FLOW DIAGRAM OF WANI ARCHITECTURE - FUNCTIONING OF PDOA-PDO.....	14
KEY HURDLES.....	15
PUBLIC WIFI HOTSPOTS: ON A FAST TRACK	17
CONCLUSION	21



EXECUTIVE SUMMARY

Public Wi-Fi networks offer affordable, scalable and versatile means to help facilitate the spread of Internet access and will play a key role as country moves towards 5G. As per Analysys Mason Report on Public Wi-Fi released in July 2018, India's GDP could increase by over USD 20 billion (INR 1.4 lakh crore) cumulative between 2017-19 broadly by the impact of Public Wi-Fi. An ICRIER BIF study pegs the Internet's contribution to India's GDP at about 16 percent or \$534 billion by 2020. There lies a big opportunity to be explored as there are investors who are willing to invest in this area.

The National Digital Communication Policy (NDCP) 2018 has set ambitious targets for Public Wi-Fi hotspots both in the cities/metros as well as in the rural areas – under Connect India: Creating a Robust Digital Communication Infrastructure, clause f) Enable deployment of public Wi-Fi Hotspots; to reach 5 million by 2020 and 10 million by 2022 and under the strategies, clause 1.1 (a) iii). NagarNet – Establishing 1 Million Hotspots in urban areas and iv. JanWiFi – Establishing 2 Million Hotspots in rural areas.

For India, there is a huge potential, since we are far behind the comparable economies in terms of Public Wi-Fi. Based on the 2016 global average of 1 Wi-Fi hotspot for every 150 persons, India should have already had 80 lakh hotspots. The global average is already moving up to 1 in 20 persons and is an indication that there is a long way to go for India. Against this, after much efforts from the Government, we have about 3.5 lakh Public Wi-Fi hotspots, which is barely about 5% of the benchmark requirement.

The TRAI recommendations on Liberalized Approach to Public Wi-Fi and the unique WANI standard for inter-operability between hotspots

correctly highlight steps to facilitate creation of millions of Public Wi-Fi hotspots. Creation of so many hotspots is not possible with just limited players and would require a vast army of small operators – Public Data Office Aggregators (PDOA). PDOAs will allow smaller players to provide Wi-Fi services without having to incur heavy costs.

However, there is lack of adequate understanding on Liberalised Wi-Fi in some quarters which needs to be reflected upon. One must realise that PDOAs can provide customers with a seamless experience regarding authentication and payments on the frontlines. They can also reap the benefits of this enhanced customer service because it increases the demand for public Wi-Fi. Small chaiwallas and micro-entrepreneurs in rural towns can also quickly offer Wi-Fi, and this can be operated side-by-side with them.

With the increasing number of Public Wi-Fi hotspots, it can offer a much-needed interval for Telecom Service Providers to offload cellular data onto Wi-Fi networks. This move will efficiently reduce congestion on their existing burdened networks. The addition of more public Wi-Fi hotspots will increase the number of users, which, in turn, will increase the amount of data downloads. The data traffic will have to be carried only by the telcos, and this will help boost their revenues. Public Wi-Fi is necessary for augmenting capacity handling. In fact, Mobile Spectrum does not have the capacity for carrying humungous data carriage onto their networks.

With the cost of mobile broadband coming down dramatically post arrival of a new entrant in the market, an argument that is often made is that we don't need Public Wi-Fi. Even if the usage cost offered by TSPs and public Wi-Fi is the same, the capacity in broadband is limited by spectrum but it is not so in case of Public Wi-Fi. Consistent download capacity for heavy downloads makes it significant from ubiquitous broadband perspective. This will open up of a new additional revenue stream for TSPs as they are the ones who will carry this huge traffic as it increases data downloads. Thus, it should be seen as a service that will supplement and complement the offering of TSPs.

The Gazette notification by the Department of Telecommunication (DoT) to license exempt 605 MHz of the 5GHz band is a hugely welcome step forward to obviate the bandwidth crunch for creation of Public Wi-Fi hotspots, thereby making the total capacity to almost 12 times the previous capacity of around 50MHz for outdoor usage (in the 5GHz band). The notification will help in removing one of the major barriers cited for creation of hotspots- the lack of availability of sufficient de-licensed Wi-Fi spectrum.

It's a win-win for all as the consumer gets sufficient bandwidth to download video/data. It will increase the data usage which means higher revenues for the operator, and higher levels of internet penetration for Government's Digital India objectives along with creating a new employment stream for small time players.

INTRODUCTION

India is in a stage where wireless subscribers and data subscribers are growing at a rapid pace year on year. The wireless subscribers increased from 1011 million in 2015 to 1162 million in 2019, a growth of approximately 15%. The wireless broadband subscribers increased from 556 million in 2015 to 650 million subscribers as on March 2019 which is approximately 17% growth in 4 years. Despite rapid growth in wireless sector in India, India still lags behind many countries in the availability of broadband and it is still elusive to more than 50 percent population of the country. There is an urgent requirement of a technology like Wi-Fi which will offload the data traffic from the Cellular networks to Wi-Fi and increase the broadband access to the each and every citizen of this country.

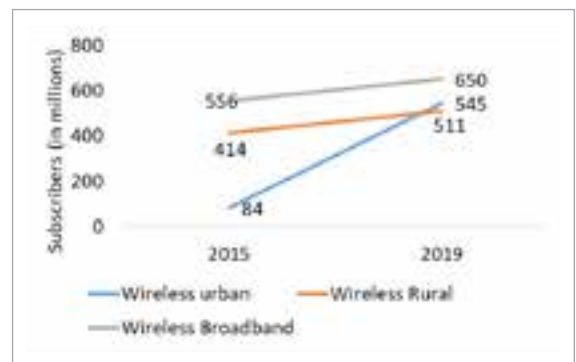
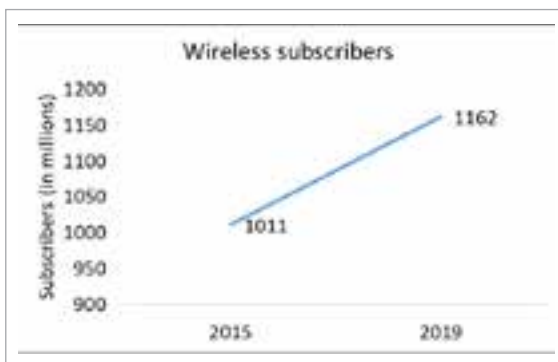


Image Source: Phimetrics

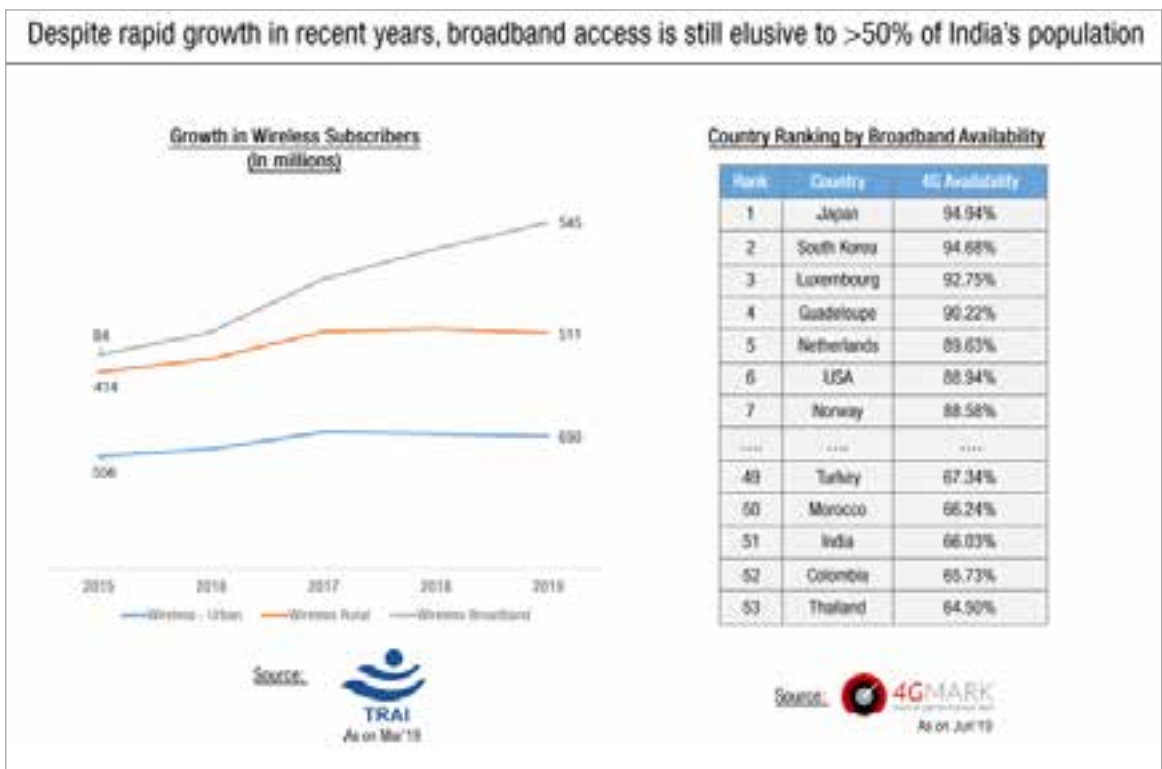


Image Source: TRAI

India has the highest average monthly data usage, reaching 9.8 gigabytes (GB) by the end of 2018 and is expected to reach 18 GB by 2024 (Ericsson). The growth in data is primarily due to the increasing number of mobile subscribers and therefore the networks are facing serious congestion constraints due to which there are QoS compliance issues faced by the service providers. Mobile services are adapted to capacity constraints and inefficient spectrum in India but in case of Wi-Fi there are no capacity constraints. It enables high downloading traffic.

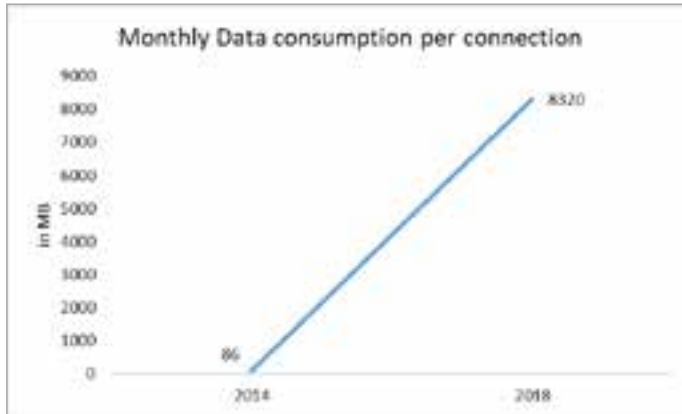
As per the latest TRAI reports we have approx. little over 550 Mn people who have access to the Broadband service. Broadband is thus a very important and essential requirement. However, one needs to find cost efficient ways to deliver the same. In fact, as seen in most other countries, Broadband penetration has actually increased manifold after Public Wi-Fi took off. In 2006 in China, when the Public Wi-Fi market was opened up, the Broadband penetration literally went through the sky. This clearly emphasizes the importance of Public Wi-Fi in accelerating Broadband penetration.

The world is still waiting for its next big infusion of speed. For more than a year now, the fastest

countries in the world seem to be stuck in a holding pattern, getting close but not surpassing the 50 Mbps threshold for average 4G speed. What the mobile industry has failed to gain in power, though, it has achieved in reach. 4G availability continues to expand around the world at a steady pace.

India ranks 100 in the list of rankings by Data speed with an average speed of 2.5 Mbps. The list is dominated by countries like Luxembourg, Switzerland & Netherlands with an average speed of 44.7, 40.2 & 33.9 Mbps respectively. There is an urgent need of releasing the network congestion and provide easy internet access without any lags, which would be possible only through improving the backhaul processes of networks and Public Wi-Fi can play a dominating role in it (other than Optical fibre where in India, fiberisation of towers is inefficient & lags behind many countries too).





Source: Mckinsey

Country Ranking by Data Speed

Rank	Country	Avg Speed (Mbps)
1	Luxembourg	44.7
2	Switzerland	40.2
3	Netherlands	33.9
4	Denmark	31.8
5	Estonia	30.1
6	Canada	29.6
7	France	29.3
....
98	Pakistan	2.7
99	Uzbekistan	2.6
100	India	2.5
101	Iraq	2.3
102	Venezuela	2.3

Source:  4GMARK
As on Jun'18

NDCP TARGETS

The Govt. of India or the DOT in its forward looking and far reaching document called the National Digital Communications Policy (NDCP) -2018 has thrown the door open for creation of Public Wi-Fi hotspots by setting up ambitious targets of setting up of 5 Million Public Wi-Fi hotspots by 2020 and 10 Million hotspots by 2022. Not only did the DoT set the targets but it also took several other measures viz.

- A) Establishing 1 Million Public
- B) Wi-Fi hotspots in Urban Areas through the 'Nagar Net' scheme
- C) Establishing 2 Million Public Wi-Fi hotspots in the Rural Areas under the 'Jan Wi-Fi' scheme
- D) Called for setting up 3 Public Wi-Fi hotspots at every Gram Panchayat initially and to be scaled upto 5 later. This translates into creation of 12.5 lakh or 1.25 Million hotspots in rural India. This is planned to be set up by 2019 itself. Tenders for this requirement which was floated by BBNL are under finalisation.

It should be appreciated and understood that growth of Wi-Fi hotspots available will lead to increase in data downloads, which is not happening currently, and the data traffic generated from the usage has to be covered by the TSPs which will lead to incremental business to them.

A report by Analysys Mason says that **“TSPs, in particular mobile operators, can more directly monetise this demand: 20% of Wi-Fi users are willing to pay more for better mobile broadband (outside train stations) as a result of experiencing a real fast broadband service on Wi-Fi. An additional 14% of the users are willing to upgrade their existing smartphones after experiencing high-speed Wi-Fi. This means that around 100 million people are willing to spend an additional USD2 to 3 billion per year on handsets and cellular mobile broadband services as a result of experiencing fast broadband on public Wi-Fi.”**

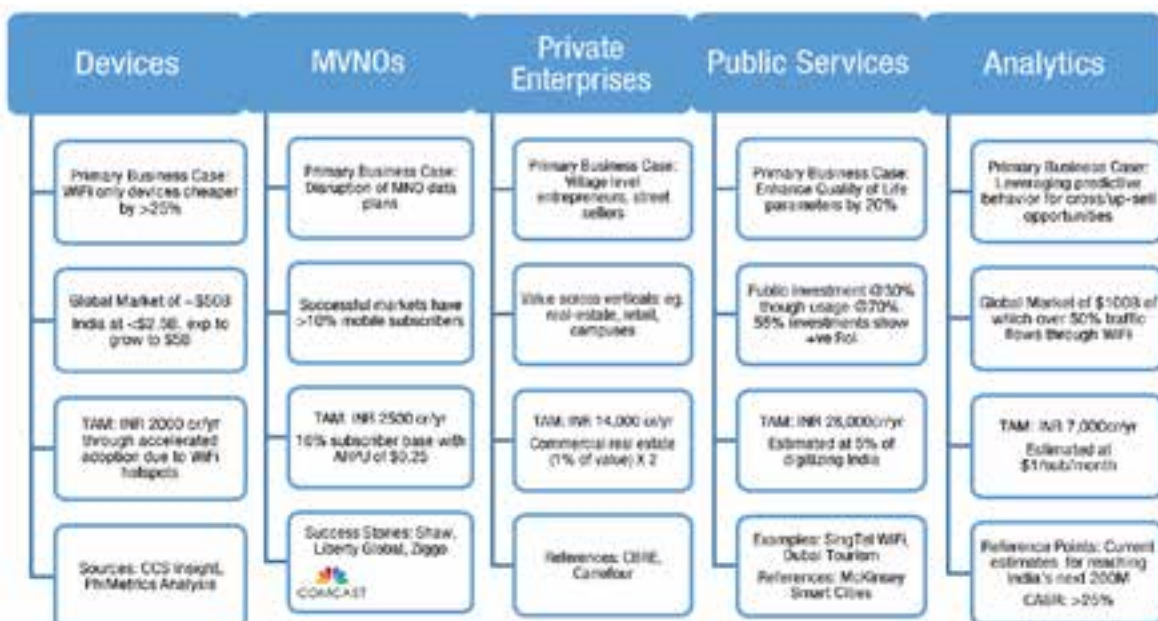
Role of Wi-Fi in accelerating Broadband in India

Wi-Fi will not only be beneficial to the TSPs in offloading their data but also to the non-TSP stakeholders who can benefit to the extent of INR 60,000 Cr from ubiquitous Wi-Fi.

Although, 60000 Cr is a very conservative figure and belongs to non-telcos, additionally, telcos can also benefit to an extent of around 1500 Cr from Wi-Fi which adds up to 7500 Cr of revenue creation from Public Wi-Fi.

The PDOA model recommended by TRAI for Public Wi-Fi comes as a booster for better way of handling the data traffic generated in the networks in India without any constraints as these aggregators in itself are the bandwidth providers and traffic generators, therefore will not stay create any capacity constraints.

Wi-Fi has the potential to deliver 4G and 5G type services through upgradation (802.11ac - Wave2, 802.11ax - Wi-Fi 6). It is Ideal futuristic platform for IoT, M2M and E-health, E-farming, E-education & will become a part of the 5G ecosystem through Release 16 & 17 of 3GPP IMT Standardisation process.



This is a big opportunity area which has remained unexplored so far. This task of spreading broadband through Public Wi-Fi Hotspots can be made possible through a vast army of many small entrepreneurs who are aware of the local know-how and environment. Many investors are willing to invest in this area and time is ripe to liberalize this area to tap its full potential.

This will help develop Wi-Fi hotspots like a small-scale industry akin to the case of PCOs as it will enable small shop owners viz. kirana stores and micro-entrepreneurs such as chai-wallas and pan shops to provide Wi-Fi services, who can generate additional revenue stream. One reason for slow growth of Public Wi-Fi hotspots in India was inability to roam from one public hotspot to another. The interoperability will enable 'roaming' and increase its adoptability.

There are multiple monetisation models which exists for Wi-Fi and few are mentioned below:

- 1. Transport corridors:** Airports, Railway stations, bus stands, Metro corridors, inside bus/trains
Business model: MNO offload, advertising, IBS bundling
- 2. Public Venues:** Tourist locations, sport stadiums, shopping malls, parks
Business model: MNO offloading, advertising, IBS building
- 3. Office buildings:** Govt. buildings (e.g. Courts, offices), public service kendras, panchayat offices
Business model: Fee based, IBS bundling, building code compliance
- 4. Local Entrepreneurs:** Restaurants, Local shops, Village entrepreneurs, private residential societies
Business Model: Additional revenue, better customer retention.

Multiple monetization models exist for Wi-Fi



Independent Wi-Fi aggregator can build innovative & customized business models

Few examples of monetisation from Public Wi-Fi

- Boingo, a Public Wi-Fi integrator, has grown from start-up to the leading Wi-Fi company in the world and the largest indoor DAS (cellular) provider in the United States over the past 16 years. Their enterprise value grew to be around 7000 Cr.
- In India, there is an opportunity of having at least 25-50 Boingos, and therefore one can only imagine the enormous value creation it can lead to for us - an enterprise value of INR 3,50,000 Cr (7000*50).
- As per ICRIER-BIF Report, the contribution of internet-based traffic is estimated to grow to nearly 16 percent of the country's GDP by 2020 or INR 36 lakh crore (USD 534 billion), of which apps will contribute about half.



- Enterprise Value: INR 7,000 cr
- 3X Revenue Multiple
- 11.7X EBITDA Multiple
- 1B subscriber reach, 1M locations

Source: Phimetrics

- A local tea seller in Noida increased his sales by 300% on providing free Wi-Fi over a week.
- Similarly, a Village in Andhra (Kuchipudi) was connected via Wi-Fi from a Gram Panchayat (GP) in less than 24 hours by a village headman.



- Local tea-seller in Noida
- Increased sales by 300% on providing free WiFi for a week



- Village in Andhra (Kuchipudi)
- Connected from GP in <24 hrs
- Village headman led initiative

Source: Phimetrics

With such open architectures, India offers an opportunity for 25-50 'Boingos'

- 5000 wired gram panchayats
- 60 smart cities planned
- 100,000 villages
- 600M sqft commercial real estate
- Huge data underserved population
- Advertisers cannot reach beyond 100M digital consumers

KEY BENEFITS

Public Wi-Fi offers a huge opportunity for Small scale as well as large scale industries and helps in transforming the economy of the country. Some of the benefits from Public Wi-Fi are as below:

- IoT will play a major role in the technological transformation and in the country's vision of Digital India. It will play a major role in IoT standardization in India.
- The WANI architecture recommended by the authority has already proven being technology compliant and will be a booster for digitization in India.
- A major boost for the emerging technologies (AI, IoT, Autonomous Vehicles, etc.) and Start up ecosystem. It will help the business grow by keeping customers intact with the emerging economy.
- It will create massive Public Sector Infrastructure with end-end connectivity.
- Consistent download capacity for heavy downloads.
- Offloading of major traffic from the Operator's networks and avoid congestions for hassle free usage to customers.

OTHER BENEFITS

1. Ubiquitous - Each smart device (including Mobile Phones) is Wi-Fi enabled.
2. Uses unlicensed spectrum (*ISM Band*) which is free (690 MHz in 2.4GHz and 5GHz Band).
3. All IP Technology which is very efficient and future proof which is based on open and ever evolving standards of IEEE (802.11x).

4. Plug-n-Play ecosystem.
5. Low Power consuming and Low Cost - overall infra cost about 10% of licensed mobile infrastructure.
6. Potential to conserve scarce licensed spectrum through Mobile Data Offload (MDO), Fixed Mobile Convergence (FMC).
7. NINENP (Non- Interfering, Non-Exclusive, Non-Protected) - Free for All.
8. Current Hotspots in India - 3.75 Lakhs (mushrooming everywhere).
9. Potential to deliver 4G and 5G type services through upgradation (802.11ac - Wave2, 802.11ax - Wi-Fi 6)
10. Ideal futuristic platform for IoT, M2M and E-health, E-farming, E-education. Wi-Fi to become a part of the 5G ecosystem through Release 16 & 17 of 3GPP IMT Standardisation process.
11. **Wi-Fi will continue to co-exist with mobile but the relationship will change**

Over the years, the position of Wi-Fi and mobile technology has been presented by many vendors and industry experts as a struggle to the death. The reality is that both will survive because Wi-Fi continues to have a few useful benefits over mobile technology. Wi-Fi ongoing advantages will be:

- A) Lower cost:** Wi-Fi uses free unlicensed spectrum and Wi-Fi hardware is cheap and widely adopted.
- B) Wide support across categories:** Wi-Fi is a ubiquitous feature across all mobile, smartphone and most smart wearable devices.

UNLICENSED BAND FOR WI-FI USAGE IN INDIA

In India the following bands are unlicensed for Low Power Communication usage with some restrictions which represents a huge opportunity in India for Wi-Fi:

2400-2485 MHz;

5150-5250 MHz,

5250-5350 MHz;

5470-5725 MHz;

5725-5875 MHz

The move is to push setting up of Wi-Fi services in the country and complement development of 5G ecosystem in Rural Areas.

Now, in total 690 MHz is unlicensed to be used for Wi-Fi or other innovative technologies



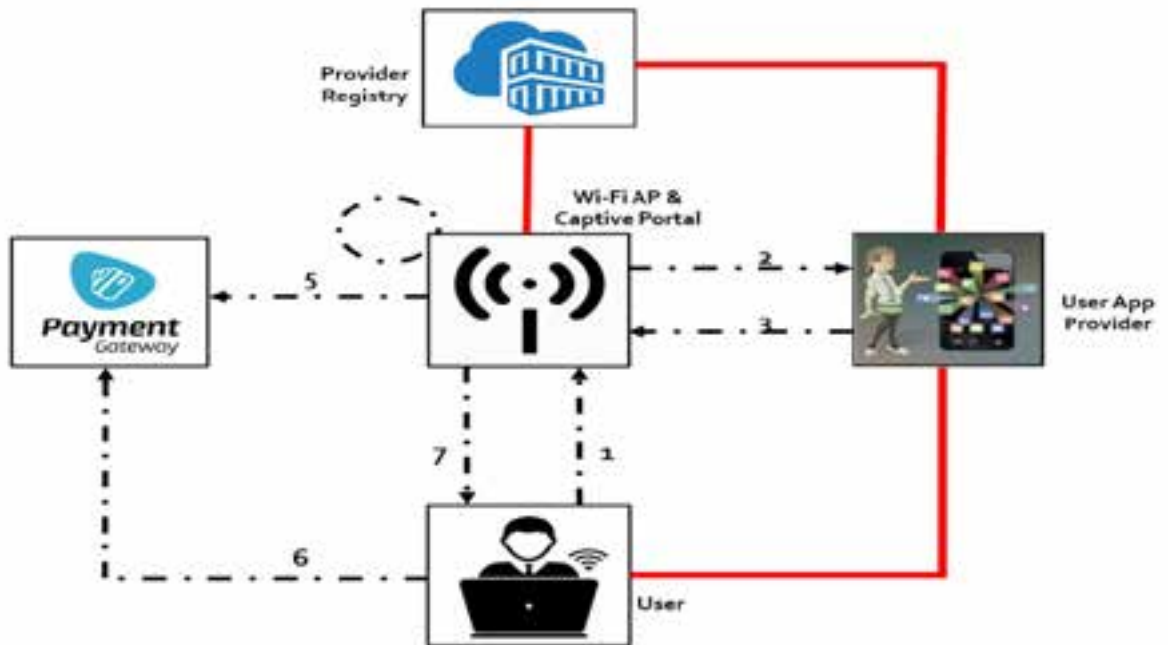
WIRELESS ACCESS NETWORK INTERFACE (WANI)

TRAI recommended for implementation of PDOA-PDO model using Wireless Access Network Interface (WANI) Architecture, which is an Indigenous, Open Architecture, such that:

- Any entity (company, proprietorship, societies, non-profits, etc.) should easily be able to setup a public Wi-Fi Access Point to provide services to end users.
- Users should be able to easily discover WANI compliant SSIDs, do one click authentication and payment, and connect one or more devices in single session.
- The Experience for a small entrepreneur to purchase, self-register, set-up and operate a PDO is very simple, low-touch and maintenance-free.
- The products available for consumption could begin from “sachet-sized”, i.e. low denominations ranging from INR 2 to INR 20, etc.
- Providers (PDO box provider, Access Point hardware/software, user authentication and KYC provider, and payment gateway provider) are unbundled to eliminate silos and closed systems. This allows multiple parties in the ecosystem to come together and enable large scale adoption at Grass-Root Level.
- **It will facilitate the creation of millions of hotspots. The creation of so many hotspots is not possible by limited number of TSPs and ISPs but will require a large army of small entrepreneurs or PDOAs. They can provide Wi-Fi without having to incur heavy costs and help develop Wi-Fi hotspots like a small scale industry akin to PCO model. Subscribers can roam on Public Wi-Fi from one place to another from WANI architecture.**

It is indeed India's UPI moment.

Flow Diagram of WANI Architecture - Functioning of PDOA-PDO



KEY HURDLES:

There are a few hurdles which was identified in accessibility of Public Wi-Fi. These are as below:

1. Customers are facing the issue of manual action for periodic Login to Wi-Fi networks rather than automatically connecting the network while on the move.

Internationally, UK is one such country where Public Wi-Fi traffic is lagged behind Mobile Data due to such issues.

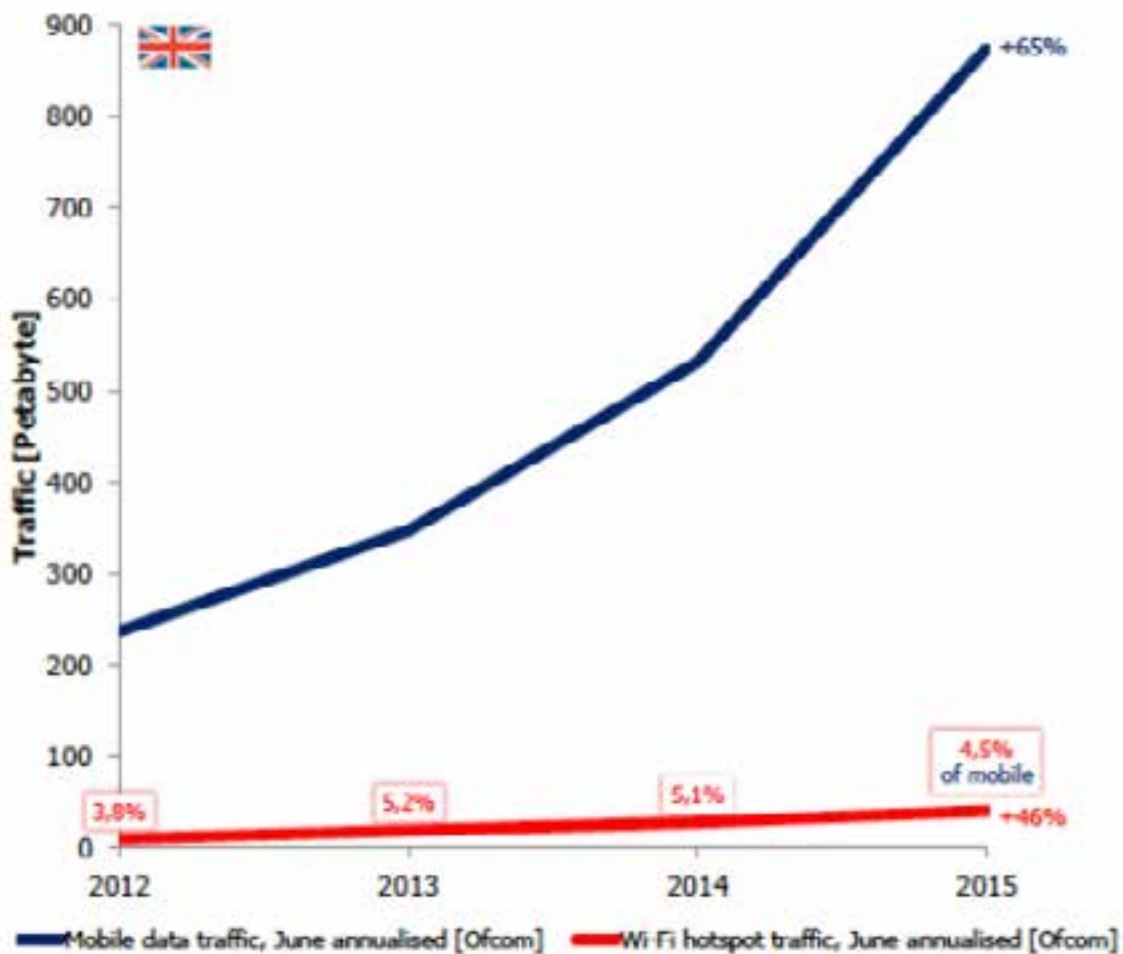
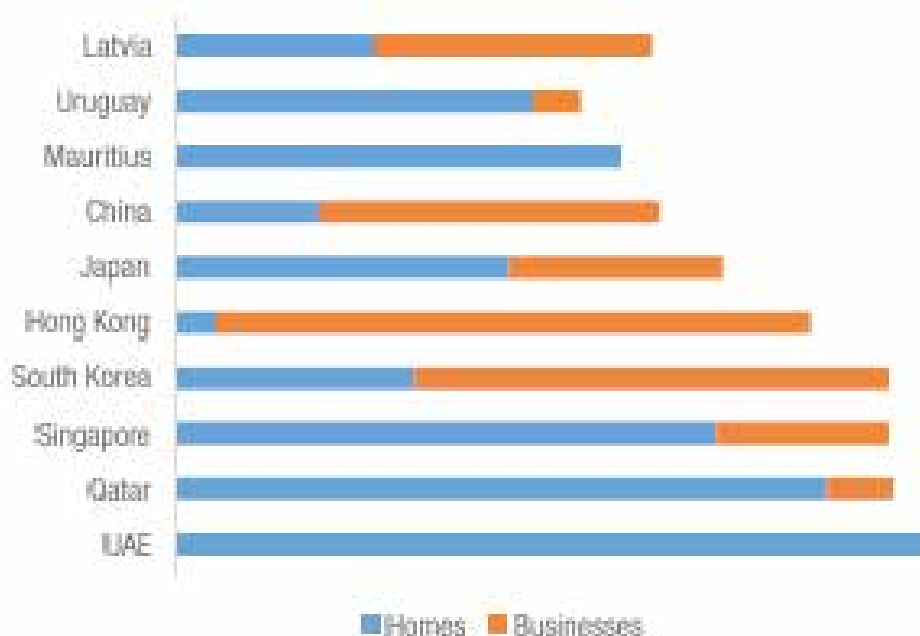


Figure 10. Development in mobile data traffic and public Wi-Fi traffic in the UK

2. Public Wi-Fi accessibility are prone to security attacks due to the non-encryption of such networks. In the past, there are cases where it was misused for unauthorized access.
3. Inefficient Fiber backhauled to the networks in India is also a major issue. India does not even qualify for global fibre rankings as penetration of Fiber in homes and businesses are less than 1% and the total fiberisation of towers in India is less than 25% which is way below compared to countries like China.
4. The progress of Bharatnet is very slow. Bharatnet will allow bridging this gap.

of Homes & Business with Fiber by Country



Fiber Km per capita

India	China	US
0.06	0.87	1.30

Source: FTTH council Europe, Phimetrics analysis

All in all, considering the above hurdles, TRAI recommended WANI architecture addresses these concerns and a multi network MVNO through aggregator model as well. It will help boost the required broadband penetration in India through Public Wi-Fi and moreover, similar to the data usage growth, India will witness a growth in Broadband penetration beyond any other country with this proposed architecture by TRAI.

Public WiFi Hotspots: On A Fast Track

India will witness a 6x jump in Public WiFi Hotspots in the next two years by reaching 2.1 million from 0.3 million in 2019

Globally, Public WiFi Hotspots (Public WiFi Commercial Hotspots and Homespots) is forecast to grow 4x from 124 million in 2017 to 549 million by 2022 according to Cisco VNI Mobile 2019. WiFi Homespots is expected to grow from 115 million in 2017 to 532 million by 2022 whereas Commercial Hotspots (cafes, restaurants, retail chains, hotels, airports and trains) will grow from 9.8 million in 2017 to 17.2 million by 2022. Worldwide majority of Public WiFi Hotspots is contributed through WiFi Homespots and in the Indian context it need to be utilised in some form or the other so that we can achieve our goal.

Let's look at India numbers. According to DigiAnalysys, India's Public WiFi Hotspot number is estimated to be around 300,000 (See Table 1: India's Public WiFi Hotspot Status) as on August 2019 whereas government target as per National Digital Communications Policy (NDCP) 2018 is to reach 5 million Public WiFi Hotspots by 2020 and 10 million by 2022. Presently, the pace of Public WiFi Hotspot deployment in the country is slow and all stakeholders - Government, Operators, ISPs, Indian Railways and others need to accelerate if they plan to meet the first milestone.

The Top 3 contributors like Bharat Broadband Network Limited (BBNL), Bharat Sanchar Nigam Limited (BSNL) and Reliance Jio have done extremely well whereas private operators like Bharti Airtel and Vodafone Idea need to accelerate Public WiFi Hotspot deployment in a big way. Smart Cities have also contributed a lot to Public WiFi Hotspot numbers as these have been deployed in cities like Gandhinagar, Mumbai, New Delhi, Mumbai, Nagpur, Bangalore, Hyderabad, Goa, Kanpur, Ahmedabad, Faridabad, Raipur, Agartala, Vadodara and Gurgaon. It is forecast that large number of Smart Cities deployment with respect to Public WiFi Hotspots will get deployed in FY2019-20 timeframe.

Table 1: India's Public WiFi Hotspot Status

BBNL	220,700
BSNL	49,300
Reliance Jio	6,500
QuadGen Wireless	6,000
Smart Cities	5,000
RailTel	1,618
Vodafone Idea	1,000
Bharti Airtel	1,000
L&T ECC	800
Others*	15,000
Total	306,918
*Others include: MTNL, Facebook, ISPs and others	

Source: DigiAnalysys 2019

As per DigiAnalysys, India will witness a quantum jump in Public WiFi hotspots in the next two years by reaching around 2.1 million thanks to Bharat Broadband Network Limited (BBNL), Smart Cities, Indian Railways, colleges and retail chains. This number is bound to increase further if private operators deploy Public WiFi Hotspots for Mobile Data Offload and also for conserving scarce spectrum resource.

India has immense Public WiFi Hotspot opportunities to meet the second milestone of achieving 10 million WiFi hotspots by 2022. Let me talk about five big opportunities for Public WiFi Hotspots in the country (See Table 2). First, retail is a big segment and it needs to be leveraged in big way whether through retail chains, retail outlets, cafes and restaurants as deployment of WiFi will also help increase usage of digital payment. Second, 200,000 Gram Panchayats (GPs) will deploy 5 hotspots each - schools, police stations, primary health centres, post office and panchayat office. Once deployed, the cumulative number of WiFi hotspots will reach around 1.25 million. Third, cities and towns have lot of community places say parks, tourist locations, malls, streets and religious places and there are around 4,000

cities and towns in India. So the total number comes around 130,000. Fourth, there are 60,000 petroleum outlets which is inclusive of both government and private sector and plans are to double the outlets in 2-3 years so one is looking at 120,000. Fifth, around 20 smart cities have deployed Public WiFi hotspots and remaining are still in the implementation stage. Even Smart Cities is a big opportunity for e.g. Delhi is planning for 11,000 WiFi hotspots deployment.

Table 2: India's Public WiFi Hotspot Opportunities

Retail Outlets	14,000,000
Digital Villages	200,000
Community Places	130,000
Petroleum Outlets	120,000
Smart Cities	100
Colleges	47,000
Delhi Government	11,000
Railway Stations	4,791
Passenger Trains	20,000

Source: DigiAnalysys 2019



TRAI is also talking about PDOA (Public Data Office Aggregators) Model using WANI (Wireless Access Network Interface), an open architecture platform whereby small kirana store person can deploy WiFi in their premise thereby opening its WiFi for public. The model also allows WiFi roaming within PDOA network. Presently, this is still under discussion stage in DoT and a formal announcement is still awaited about what would be its modality if it is accepted by DoT.

Globally, we can learn from the UK model. The country has deployed one WiFi hotspot for every 11 people whereas worldwide average is one for every 150 people. In the UK, BT has around 5 million hotspots and they have converted home routers into Public WiFi Hotspots providing free net access to other subscribers without affecting the bandwidth of its customer.

WiFi Deployment Challenges: Right of Way (RoW), availability of backhaul, huge debt of telcos do act as a deterrent for WiFi deployment in the country and this needs to be sorted out so that WiFi deployment can gain momentum going forward. States need to come forward and deploy Public WiFi Hotspots in Smart Cities as presently they have lot of models which they can follow. Ministry of HRD as well as colleges need to take the initiative by offering RoW and providing backhaul so that all colleges can be WiFi enabled. Retail outlet is one big segment which if tackled properly either through PDOA model or through operator model can help in providing Mobile Data Offload (MDO) thereby conserving on spectrum and saving on capex as well as opex for the operator.

The biggest challenge is monetisation of Public WiFi Hotspots and this will happen only when WiFi reaches critical mass in the country through advertising, data analytics and mobile data offload. Presently, this is deployed in a small scale but this needs to be fine-tuned for a large scale deployment which is a win-win for all WiFi stakeholders say operators, ISPs, municipalities, vendors, OTT players, App providers, advertising agencies and FMCG companies.

CONCLUSION

The enormous task of expeditiously creation of the NDCP target of 50 lakh public Wi-Fi hotspots cannot be met by depending only on a very limited number of players and it definitely demands a vast army of local small entrepreneurs who know the local environment. There is a need to adopt fully the liberalized approach as suggested by TRAI in its recommendation on Public Wi-Fi networks. Seamless Wi-Fi Roaming is important where people can easily access Wi-Fi on the move. Hence, the regulator has brought in the WANI architecture clearly in accordance with the NDCP goals.

The belief that with the cost of mobile broadband coming down dramatically, Public Wi-Fi may remain under-utilized is unwarranted. Even if the tariffs offered by TSPs and public Wi-Fi is at the same level, mobile networks lack the capacity of handling the humungous data traffic, 80% of which is dominated by video content. The capacity in broadband is limited by spectrum but that is not the case with Public Wi-Fi. It will also play a major role in offloading the congestion from the mobile networks and will make easy for users to access. This will also open up of a new additional revenue stream for operators as they are the ones who will carry this huge traffic as data downloads increase.

There is a feasible business case around liberalised Public Wi-Fi hotspots and investors are ready to invest in this area. It is for us to adopt the fully liberalized Public Wi-Fi model to ensure we do not miss the opportunity.

