

PM-WANI HAS THE POTENTIAL TO REVOLUTIONISE THE WAY INDIA ACCESSES THE INTERNET

Relevant for: Developmental Issues | Topic: E-governance - applications, models, successes, limitations, and potential incl. Aadhaar & Digital power

Build for a billion. That has been the vision behind India's successful innovations, such as [Aadhaar](#) or UPI. These solutions had to be frugal, or the people could not afford them; interoperable, so competition could be harnessed to create value for the consumer; and easy to roll out, for the benefits to quickly reach our countrymen in the remotest areas.

What is the secret to building such solutions in the digital age? Unbundle a problem into manageable pieces, create robust and interoperable solutions for each part, and glue the components together through connectors called APIs. India also has a history of leapfrogging digital technologies. Even at its peak, India's tele-density of landlines never exceeded 7 per 100 people. Today, due to mobiles, it stands at 90 per 100 people. We also have a history of frugal architectural innovation to make expensive infrastructure accessible. When landlines were scarce, PCOs proliferated.

From 2015 to June of 2020, we grew from 302 million internet subscribers to 750 million. That is a CAGR of 20 per cent, making India one of the fastest growing internet markets in the world. However, this statistic obfuscates the quality of access. Only 23 million are wired internet subscribers. If Digital India vision is to be achieved, we need to deliver a resilient and reliable connection to every Indian, so that they can have reliable access everywhere, at affordable price points.

Despite excellent advances in 4G technology, wired connections still offer superior quality, reliability and throughput. On December 9, the Union cabinet gave approval to the Pradhan Mantri Wireless Access Network Interface (PM-WANI). On the surface, this looks like a project to install WiFi hotspots, one that most other countries already have. However, the devil is in the details.

Comparing WANI to other public WiFi schemes would be akin to saying that the automobile was just a faster horse. If you had to compare, the right contemporary for PM-WANI would be UPI. UPI created common payments infrastructure that unbundled whose app you use to pay from which bank your money was in. This resulted in 3 Cs — greater convenience, higher confidence and lower costs. PM-WANI unbundles whose wired connection you use from who you pay to use that connection. Instead of redundant networks by ISPs to compete for top users, it allows them to interoperate and focus on connecting the last user. It is built on unbundling three As — access, authorisation and accounting.

There are two dimensions along which PM-WANI has broken away from the past — regulatory and technology. PM-WANI has liberalised the resale of bandwidth. Thus far, only licensed players could become Internet Service Providers and resell bandwidth. Due to the inherent network effects of investing in network infrastructure, this has led to the top 5 ISPs owning 75 per cent of the volume of all wired subscribers. PM-WANI allows anyone — a kirana shop owner, a tea-stall vendor, or a Common Service Centre — to resell internet to its customers without a licence and without fees! By installing a wireless router, they can get on the PM-WANI network and start selling connectivity. These small vendors will be called Public Data Offices (PDOs), in a deliberate hark back to the Public Call Offices of yore. PCOs became centres of economic activity, providing small businesses with a steady trickle of clients that they could then

sell other sachet-sized products. Due to this deregulation, the distribution of endpoints of PM-WANI will be selected by entrepreneurs rather than being decided top-down. That means the communities' connectivity problems will be solved by members of the community itself.

PDOs will make similar sachets out of reliable data and serve it over an interoperable WiFi network. This is where the second dimension of PM-WANI becomes exciting. One of the reasons ISPs are regulated is because an open internet endpoint can be used for malicious purposes. Even cybercafes in India are required to note the details of clients and log their visits. In countries which do not have this protection, we have seen public WiFi being used by bad actors for harassment, stalking, fake bomb scares and even death threats.

Thankfully, India has built a versatile and robust identity infrastructure in the form of Aadhaar and DigiLocker. PM-WANI builds on these to authenticate its users. This architecture also allows a central data balance and central KYC, that users can use inter-operably across all PDOs. The network operators then settle accounting between them, much like how telecom operators settle call termination charges. The end result is unlike other countries, Indians can log in once and enjoy access on all available WiFi networks. Having such a public network also allows international travellers to take advantage of India's connectivity, without paying exorbitant roaming charges to their home networks. PM-WANI is forward-looking in its design. A single-click, multi-device experience has been envisioned.

With cabinet approval, the ball is now in the Department of Telecom's court. Without good execution, PM-WANI is merely an exciting concept on paper. However, if done right, PM-WANI will revolutionise the way India accesses the internet and be a fillip to small businesses. We hope there will be more than 10 million WiFi hotspots in the next two years. Interestingly, it will also provide a demand-side pull to fixed line connectivity making these as profitable lines for Telcos.

These PDOs can become local distribution centres for content. Students in rural areas can access offline content without using bandwidth. Even with the world's lowest data rates, the average Indian consumer still monitors their total data consumption to save money. The cost of access over PM-WANI will be lesser than that of 4G. Combine this with the liberalisation of the Other Service Providers (OSPs) regulations, and you can see that India is paving the way for digital SMEs to go online without the burden of onerous compliances.

The writer is former chairman, TRAI

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