

1. It is our experience that in most of the world, particularly in developed countries such as the USA, Wi-Fi is provided free of charge to the end user. Thus Wi-Fi is free for use in coffee shops, Malls and so on. Most of the hotels are providing the service free and some are charging. Most of the airports are providing the service free and a few charge.
2. From the number of hotspots in existence in these countries (which is in millions, compared to India's thousands) it becomes evident that there are success models in place which is why there is a proliferation.
3. Going back in history, "Wi-Fi hotspots" was a buzz phrase in the early 2000s, say 2003-2004. Starbucks Wi-Fi was already in existence, provided in those days by T-Mobile. The service was charged as much as \$ 7 for an hour.
4. There was an expected 'explosion' of hotspots, which actually didn't happen and the concept of charging for the service could not take off.
5. In fact Muni Wi-Fi and City wide Wi-Fi became buzz words around 2007. Muni Wi-Fi was supposed to take off in a big way. In reality this mostly fell flat and most companies which got into City Wide Wi-Fi on a commercial basis failed. (This needs to be seen in the context of this consultation paper) (For example Q2 says: **What 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?**)
6. One needs to understand why this consultation paper is talking of a model which has mostly failed world-wide. Smart Cities could be a reason. However one has to think things out clearly.
7. Wi-Fi hotspots themselves made a "comeback" in the last 5 years or so with the concept of "Wi-Fi offload" gaining ground.
8. We have said earlier that the proliferation of hotspots in countries like the USA means that there is an existence of a viable business model.
9. Is this business model one where by a Service provider or a Telco investing in all the Wi-Fi hotspots? No the investment is coming from the location owners. The hotels, the coffee shops, the airports, the mall, the retail outlets. They get a benefit by providing free Wi-Fi to their customer. A person who stays in a hotel room or buys a cup of coffee or waits in a hospital or using an airport, is paying money to that establishment. The cost of providing this customer Wi-Fi is a very small for those establishments. So each establishment incurs a relatively small expense and gains the benefit of satisfying the customer.
10. If you change this model and think of one or few large service providers incurring all the expense for all the users, the business model falls apart and what was a working model is converted to a non-working model.
11. This model can very well work in India. Hotels are already providing the service. Many restaurants are providing this service. It is certain that more and more establishments and retail outlets would follow suit, because such establishments get a clear benefit
12. This consultation paper and much of what is practised in India is unfortunately based on a lack of understanding of the realities.
13. For example, the concept of 30 minutes free and after that the service charged. This will work in very few locations. Perhaps in long haul trains, but nowhere else. Airports provide drinking water. They don't say your first sip is free but after that it

- will be charged. This kind of models come up because the establishment does not want to pay anything for the service to be provided by the service provider and as a sop it says after 30 minutes you can charge (also you can charge for ads and so on). The best that the service provider can hope for is to limp along and usually it is worse than that. In Mumbai airport in Terminal T2, there is even a urinal which is charged near the exit gate and it is well used by rich and poor alike and reasonably well maintained. Of course the toilets inside the airport are for free and not charged.
14. The hotels of course do better and they pay the service provider, even if the service to the guest is free. They demand (particularly premium hotels) in return that service is top notch.
  15. Then we have the politicians and the government. They announce “Free Wi-Fi” they don’t implement it. If they do implement, it is for a few hotspots and for a limited period of time. They release RFPs. Mostly nothing come of them. This is because there is improper understanding of the subject, the need and how it is done. There is abundance of material available how things are done successfully in India and abroad.
  16. Then we have subject of the village Wi-Fi. Our company has recently deployed Free Wi-Fi in two villages, the ancestral villages of two of India’s Nobel laureates. Having done Wi-Fi we are now going about trying to provide other infrastructure. Finding out what the villages actually need and investing funds for the same. We are being advised by IITM on these subjects. (not about Wi-Fi)
  17. The politicians and the governments seem to be getting confused between Wi-Fi for the poor and Wi-Fi for the middle class and the rich. In the process neither is growing. Wi-Fi for the middle class is also very beneficial and it needs to grow. As already stated the service to the end user needs to be free.
  18. We believe we have business models that will help both grow. But this cannot be shared in this forum.
  19. This consultation paper says “In general, Internet Service Providers (ISPs) should incur substantially lesser costs in setting up Wi-Fi access infrastructure compared to mobile broadband networks like 2G/3G/4G.” The author has gone on to submit a sample financials. If those financials were true there are no problems and perhaps Wi-Fi will proliferate. If they are not true then we are back to square ONE. (the answer is that we are only at Square ONE and this Financial model is not helpful)
  20. The service provider in hotels and other hotspots should be an ISP. Particularly with the need for Lawful Intercept, unauthorized agencies should not be allowed to provide the service and collect such sensitive data.
  21. The hotels and similar establishments should be permitted to bill the guest on behalf of the ISP. The guest will pay the hotel at the time of check out. This is the only practical way. If required, there can be a stipulation that the ISP should report such billing as well
  22. The options to OTP listed under Clause 3.14 are very worthwhile considering and implementing
  23. **Q3. What measures are required to encourage interoperability between the Wi-Fi networks of different service providers, both within the country and internationally?**
    - a. Interoperability between the Wi-Fi networks of different service providers, both within the country and outside, is a technical and commercial issue.

Over a period organizations like WBA and Wi-Fi Alliance have developed Wi-Fi roaming framework across various Wi-Fi networks globally. With the increase in the proliferation of the Wi-Fi networks and services in the country, the Wi-Fi roaming providers will be able to find a viable business case for offering their services to the Indian Wi-Fi providers. Thus the growth in the Wi-Fi networks is one of the essential pre-requisite for encouraging inter-operability between the Wi-Fi networks of different service providers. One of the major access providers in India has based its BWA services strategy on proliferation of Wi-Fi services while surrendering its BWA spectrum. Whether such access provider or even others would agree for roaming arrangement with other service providers is an issue which is left to the commercial considerations of those service providers.

24. **Q8. Is there a need to adopt a hub-based model along the lines suggested by the WBA, where a central third party AAA (Authentication, Authorization and Accounting) hub will facilitate interconnection, authentication and payments? Who should own and control the hub? Should the hub operator be subject to any regulations to ensure service standards, data protection, etc?**
  - a. These should be left to the individual operators to decide
25. **Q10. Is it feasible to have an architecture wherein a common grid can be created through which any small entity can become a data service provider and able to share its available data to any consumer or user?**
  - a. These should be ISPs or Franchisees.
26. TRAI/DOT should eliminate the License Fee and make it part of the GST. The whole Country is dancing saying "One Country, One Tax". Even the Mumbai Corporation is going to do away with Octroi and integrate with GST. Why then is DOT different and wishes to carry on with such complex mechanisms. A common man will not understand.