

Net Neutrality in India: Sighting the Finish Line

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Whatever be the policy instrument through which we adopt the principle of net neutrality, India's de-facto position on this will emerge only as we begin to see new services and business models tested against the proposed principles.

The net neutrality debate revolves around key policy questions of operator autonomy in the management of communication networks; and the extent to which operators may use this autonomy to influence the access, price or quality of content available on the Internet. In February, 2016, India became one of the few countries in the world to take a definitive stance on the issue of discriminatory tariffs: Varying data tariffs based on the content being accessed by the user (TRAI, 2016). TRAI's Prohibition of Discriminatory Tariffs for Data Services Regulations, 2016 put an end to zero-rating services like Facebook's Free Basics, a platform through which users of Reliance Communications were being offered free data access for browsing Facebook and other partner websites (Damle et al, 2016). The focus then shifted to deciding how India would regulate other practices such as blocking, slowing down of particular traffic and preferential treatment of content, the other key components of the net neutrality debate.

In its recommendations to the Department of Telecommunications (DoT) made in November, 2017, TRAI extended the same logic that it used in case of discriminatory tariffs to restrict the "discriminatory treatment of content". It recommended that the license agreement

entered into between the Government and Internet service providers (ISPs) should be amended to clarify that ISPs are not permitted to discriminate between different types of content on the Internet, including based on factors such as the sender or receiver of the data packets, the protocols being deployed or the equipment being used (TRAI, 2017). This is accompanied by an associated set of recommendations on the scope of the principle, the services to which it should apply, exclusions and permitted exceptions.

TRAI's pro net neutrality stand comes amidst a continuing global debate on these issues. Notably, the United States (US) Federal Communications Commission's (FCC) has adopted a controversial repeal of the net neutrality rules adopted by its previous administration in 2015. The vehemence with which the Obama-era administration argued in favour of net neutrality and its equally spirited rejection by Ajit Pai's current FCC is illuminating in many ways. It shows that absent actual information about a counter-factual world with a "non-neutral Internet", the debate on both sides is being swayed by competing values about the ideal design of the Internet and the role of innovation and freedom in that framework.

The European Union, Brazil and even several states in the US fall among those that have opted in favour of net neutrality rules as a path to preserve the openness of the Internet. TRAI's approach also sets out the high-level principle of non-discrimination of traffic without attempting to micro-manage the specific traffic management practices of ISPs. This is broadly in line with the recommendations of the committee set up by the Department of Telecommunications (DoT) about three years back (DoT Committee, 2015).

License as the Preferred Instrument

TRAI has recommended that the principle of non-discriminatory treatment of content should flow from the terms of the license agreement entered into between the Government and ISPs. This is an interesting choice and one that speaks directly to the design of the regulatory structure in India.

The responsibility of telecom regulation in India is shared between the Government (through the DoT) and the sector regulator, TRAI. While the DoT is responsible for things like licensing, spectrum management and overall policymaking, the TRAI Act, 1997 empowers the regulator to look into issues of tariffs, interconnection between providers, quality of services and to monitor compliance with licensing terms. In addition, the law also entrusts it with the function of making recommendations to the Government on various aspects, including terms and conditions of license agreements.

TRAI has been debating issues of net neutrality since its first consultation paper on this subject in March, 2015. However, this particular recommendation emanates from a formal request received from the DoT in March, 2016. This would explain as to why the response given by TRAI is in the form of recommendations to the Government. However, having arrived at its decision to support the non-discriminatory treatment of content, TRAI could also have considered some other options in terms of the recommended policy approach.

One option was for it to directly issue regulations on net neutrality instead of suggesting amendments to the telecom license. In fact, TRAI explicitly reserves this power for itself by stating that the "Recommendations are being made without prejudice to the powers and functions conferred upon it under the TRAI Act, 1997, including on issues relating to quality of services, consumer protection, transparency, and monitoring of compliance". Why then did the regulator opt for amendments to the licensing terms as its preferred option?

First, as TRAI notes in its recommendations, ISPs in India are governed by a varied set of licensing conditions depending on the category of the license agreement under which they operate. This is an outcome of the step-by-step liberalisation of the sector and its gradual transformation from a service-specific licensing regime to a unified licensing structure.

As a result, we find that the more recent licensing agreements, such as the Unified License, which was introduced under the National Telecom Policy 2012, as well as the stand-alone ISP license introduced in 2007, already contain a specific obligation for ISPs to provide unrestricted access to all lawful content on the Internet, while the older licenses do not. TRAI uses this argument to support its stance on non-discriminatory treatment.

It notes, "Unrestricted treatment of Internet content by TSPs follows as a logical corollary to the subscribers' unrestricted right to access content." On the other hand, older licenses such as the Cellular Mobile Telephone Service (CMTS) license (it was introduced when the sector was first opened up in 1994) and the Unified Access Service License (UASL) brought about in 2003 do not contain similar requirements. Yet, there are some providers who continue to operate under these legacy agreements. Therefore, one of TRAI's stated objectives was to "Help in building uniformity in the terms governing the provision of Internet services by different categories of licensees."

Second, there is also a difference in the consequence of a violation of a license term as compared to regulations framed by TRAI. The Unified License provides that each violation of its terms may attract a financial penalty ranging from one to ten million Rupees in each service area. In contrast, the law does not empower TRAI to impose penalties for monitoring and enforcement purposes, although the regulator has devised a mechanism to impose "financial disincentives" under certain circumstances. Therefore, from an enforcement perspective, having the non-discrimination requirement under the licensing terms adds more gravitas to its enforceability.

Another possible option could have been to propose a stand-alone legislative framework on net neutrality. A law would, however, not be as malleable as the terms of the license agreement or even regulations made by TRAI. This is an important factor given the dynamic nature of the sector and rapid changes in technology and business models. Further, as noted above, other existing instruments already afford the Government and TRAI with sufficient flexibility to bring about the desired framework without the need for a Parliamentary process.

Disciplining Random Traffic Flows

Net neutrality critics maintain that neutrality, in its truest sense, can never be achieved on the Internet since it is, by design, meant to operate on a "best efforts" basis. This means that there is no guarantee that all data packets that are sent over the Internet will always reach the intended recipient or will do so within a fixed time. Data packets may be delayed, re-routed or dropped as they move through the system, leading to possibilities of loss or delays. This leads to the argument that even if the non-discrimination is accepted as a principle, its deviations cannot be accurately monitored or proven in practice (Bennet, 2017).

This is a legitimate concern and one that most net neutrality frameworks, including the one proposed by TRAI, seek to address. TRAI's recommendations provide that the principle of non-discriminatory treatment of content would not in any way restrict ISPs from engaging in "reasonable traffic management practices". The regulator does not define what such reasonable practices should be but suggests that they must be proportionate, transient and transparent in nature. This implies business as usual for ISPs in so far as they are deploying traffic shaping practices for the normal delivery of Internet traffic or to improve the efficiency of their networks. The recommendations also go a step further to note that Internet access networks are increasingly becoming more and more "context aware" and "intelligent" and the regulatory framework should be designed to accommodate such developments.

While a broad, principles-based, approach offers ISPs sufficient flexibility to manage their networks, it also implies that the actual detection of traffic shaping practices being followed by ISPs and determining their legitimacy will be no small feat. The challenge lies in having the ability to filter any deliberate acts of blocking, degrading, slowing down or preferential treatment of content from legitimate traffic management. This will no doubt entail a tremendous leap in regulatory monitoring capacity along with the deployment of innovative regulation technology tools that can be used for the collection of data and detection of possibly non-neutral practices.

There is already significant work happening in this direction. For instance, a report commissioned by the Body of European Regulators for Electronic Communications (BEREC) lists a range of software and hardware tools that are currently available in the market for traffic measurement purposes (Analyses Mason, 2017). In case of India, TRAI could begin with suitable modifications to its existing crowd sourced speed testing app, mySpeed, as the starting point for gathering more data about traffic management practices. TRAI itself acknowledges the complexity of this exercise and recommends the need for a multi-stakeholder collaborative mechanism to advise it on such monitoring aspects. In a notable move, TRAI has recently entered into a memorandum of understanding with BEREC that speaks of interregional cooperation on various aspects of net neutrality, including monitoring and measurement of compliance (BEREC-TRAI, 2018).

This debate on ensuring net neutrality compliance also needs to be placed in the broader context of the theories on regulatory compliance. The general goal of any regulatory intervention is to alter the incentives of market players in order to nudge them towards more desirable outcomes. This can be achieved through a variety of approaches. On one hand, we have active deterrence tools, of the kind discussed above, that derive their effectiveness from monitoring, enforcement and imposition of penalties by the regulator. On the other, the mere fact that a particular conduct is frowned upon by the regulator and the market, and could lead to adverse consumer outcomes, can also serve as a powerful deterrent. Effective disclosures about traffic management practices being followed by ISPs coupled with market-based mechanisms for naming and shaming of unacceptable practices must therefore supplement any direct regulatory monitoring. Drawing from this, TRAI acknowledges the need for greater transparency in respect of traffic management practices followed by ISPs and notes that it may supplement its existing disclosure and transparency requirements by framing additional regulations in this regard.

Evolving Technologies and Services

While the need for neutrality and non-discrimination fits squarely in the delivery of public Internet services, it would be dangerous to try and import this logic to all Internet Protocol (IP)-enabled services. Examples of such non-Internet IP traffic would include managed services like voice over internet or video on demand services that move from origin to destination over a single service provider's network. CISCO's VNI report estimates that such managed IP traffic will witness a compound annual growth rate (CAGR) of 13 percent between 2016 - 2021, as compared to the global IP traffic growth rate of 24 percent (CISCO, 2017).

To address the possibility of over-inclusion in its rules, TRAI has clarified that its recommendation on non-discriminatory treatment of content apply only to the provision of "Internet access services". It defines this as a new sub-category of Internet access, which is generally available to the public and is designed to connect with all or substantially all endpoints on the Internet. Besides defining the scope of covered Internet services, the recommendations also carve out an explicit exclusion for certain types of "specialised services".

Drawing from a similar concept adopted in the European Union's net neutrality regulations, TRAI's proposed definition of specialised services recognises that there may be certain categories of services that require a specific quality level that cannot be guaranteed in the best-efforts design of the Internet. Tele-surgery, which enables a doctor to remotely perform surgical procedures on patients using robotics, is a commonly cited example (BEREC, 2017:27). While experimental use of this technology has already begun, future advances in tele-surgery will hinge on the ability to networks to address the issues of latency in the transmission of communication signals (Smith, 2015). Overall improvement in network capacity is of course the preferred solution but given the constraints within which networks

operate, the regulatory framework must also allow ISPs the flexibility to develop specialised commercial services to serve such needs.

At the same time, there is the concern that businesses could devise ingenious business models that circumvent the principle of non-discrimination without necessarily violating the proposed text of the license. TRAI suggests two additional steps to address such a situation. Firstly, any service that offers capabilities that are incidental to or provide the functional equivalent of Internet Access Services are meant to be covered under the proposed restriction. This would prevent arrangements that may offer users access to a curated selection of websites on the Internet while arguing that it does not amount to the provision of "Internet Access Services". Secondly, as in the case of TRAI's discriminatory tariff regulations, any direct or indirect arrangements between an ISP and any other person that have the effect of discriminatory treatment of content would also be barred.

While the principles suggested by TRAI seem sufficiently well designed to accommodate evolving technologies and services, the real test would lie in how the market and the regulator choose to interpret these new definitions. Self-driving cars, tele-surgery, home sensors, CCTV cameras are some examples of the ever-expanding ecosystem of IP enabled services, many of which may use the Internet for their transmission but without serving the same functionality as the general Internet. Deciding whether each of these would qualify as a specialised service or be bound by the same rules that apply to general Internet traffic would depend on the specific design and functionality of each service.

What can we expect next?

TRAI's recommendations are a notable move towards ensuring non-discriminatory access to the Internet in India. However, this is still work in progress. It is now for the DoT to take a decision on this subject, informed both by the recommendations of TRAI and the suggestions made by its own committee. In its Draft National Digital Communications Policy released earlier this year, DoT listed the "*need to uphold the core principles of net neutrality*" as one of the goals to be achieved by 2022. It also made specific references to the amendment of the license agreement as being a path towards that goal. This offers a useful indication of the direction in which the DoT is likely to proceed although it might be a while before we see the actual changes coming into effect. It is also possible that the DOT may come back to TRAI for clarifications on its recommendation or refer some of the recommendations back to it for reconsideration, in accordance with the process specified under the TRAI Act.

It should also be noted that while making its recommendations to DoT, TRAI has reserved the right to frame regulations on the quality of services, transparency and monitoring aspects of net neutrality. The authority to do so flows both from TRAI's specific functions under its parent legislation as well as the manner in which its powers have been interpreted by the Supreme Court. In the case of *BSNL v. TRAI* the Supreme Court held that the

exercise of TRAI's power under Section 36(1) of the TRAI Act is only hedged with the condition that the regulations must be consistent with the parent statute and the rules under it -- "*there is no other restriction on the power of TRAI to make regulations*". Therefore, it is possible that the regulator may eventually frame appropriate regulations on some of these aspects although it would be logical to expect this only after DoT has taken some concrete action on TRAI's recommendations.

Along with the adoption of relevant principles through policy instruments, India's de-facto position on net neutrality will need to evolve with time and experience. As new types of services and business models are tested in the market, the regulator will have to dynamically assess whether they conform with the broad-based principles suggested by it. For instance, the online marketplace Amazon has arrangements with mobile operators to offer selective and free access to its online bookstore on Kindle e-readers. It will take further clarity to understand how services such as these would be impacted by the existing bar on zero rating in India coupled with the proposed principles of net neutrality. The collaborative mechanism suggested by TRAI in its recommendations and arrangements of the nature entered into with BERECA can play a meaningful role in studying the complex economic, technical, policy and legal questions that arise in this process. However, the ultimate responsibility would be on the regulator to ensure that India's net neutrality framework is able to keep pace with evolving technologies and business models, without impinging on the values of the open Internet.

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