

Analyzing Net Neutrality in India

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Introduction

Net neutrality is generally understood as a principle that allows for the “equal” treatment of data packets that move across the internet. More colloquially, the term has been used to describe the unconstrained access to Internet services (websites, content, applications) by Internet Service Providers (ISP). The principle of net neutrality has major social and economic implications ranging from issues of free speech to free and competitive markets.

‘Network (Net) Neutrality’ was first coined by Professor Tim Wu in 2003 in his paper ‘Network Neutrality, Broadband Discrimination’. Wu’s paper offers a general outlook on network neutrality and its role in **telecommunications** as well as **innovation** policy. The paper further emphasizes the role that net neutrality may play in promoting fair evolutionary competition. Wu’s proposal for Network Neutrality was as such : *“The effort is to strike a balance: to forbid broadband operators, absent a showing of harm, from restricting what users do with their Internet connection, while giving the operator general freedom to manage bandwidth consumption and other matters of local concern.”*

This statement from Wu’s paper perfectly describes the general premise of Net Neutrality. Furthermore, a basic understanding of Wu’s proposal also allows us to understand debates that span from this principle.

Although the concept of net neutrality is vast, there are some generally accepted prerequisites. Some of them are mentioned below :

- I. All websites, applications, content should be treated equally by TSPs/ISPs
- II. All websites, applications, content should be accessible at the same internet speed
- III. All websites, applications, content should be accessible for the same cost

Furthermore, net neutrality has numerous involved stakeholders. Some stakeholders that are directly affected by net neutrality are:

- I. Telecom Service Providers (TSPs)
- II. Internet Service Providers (ISPs)
- III. Over the Top (OTT) service providers
- IV. Government/Government agencies
- V. Private Businesses
- VI. Consumers

The vast number of concerned stakeholders in relation to net neutrality has naturally led to a conflicting of various different interests. This has sparked great debate. While ISPs claim that managing networks according to their mechanism is essential for providing quality service to consumers, their opponents who support net neutrality argue that ISPs' are profit driven and the internet's open nature cannot be compromised under any condition.

Current State of Net Neutrality in India: TRAI regulations, implementations and impact

Telecom Regulatory Authority of India (TRAI) is the regulatory body that is majorly responsible for concerns of net neutrality. The Department of Telecommunications (DoT) and Ministry of Communications and Information Technology (MCIT) both do, however, play a role in formulation, implementation and enforcement of policies that concern net neutrality. These institutions have had numerous encounters with attempts at violation of net neutrality, majority of the encounters which have been responsible in shaping public understanding and regulations concerning net neutrality.

Initial developments surrounding net neutrality in India can be understood through an understanding of Airtel Zero, an airtel plan that would effectively charge companies with money proportional to data consumption while utilization of their service. In 2014, Airtel, India's largest telecom operator at the time, announced **additional charges** for Voice over Internet Protocol (VoIP) for apps like skype and whatsapp. Airtel's announcement and prospective policy was a clear violation of the principles of net neutrality, as it effectively created a two-tiered internet system in which users were made to pay to access certain apps that were not 'partnered' with the company itself. This move was in clear violation of providing equal treatment and cost to applications. A more severe implication regarding businesses and startups was observed too. The idea of charging money on non-partnered apps was a clear step away from the free market. Although Airtel claimed that there was no preferential treatment, and all users are fully in their right to decide on their data consumption, it is quite obvious the disincentive smaller businesses experience when faced with the added challenge of having to operate at a natural disadvantage.

Airtel's perceived violation of net neutrality clearly emphasized the lethargic nature with which the topic was comprehended by regulatory authorities. The following year, in 2015, TRAI initiated a consultation project on net neutrality. The same year saw the release of a consultation paper on OTT services in which net neutrality was defined as "***Net neutrality (NN) is generally construed to***

mean that TSPs must treat all internet traffic on an equal basis, no matter its type or origin of content or means used to transmit packets” was found.

In November 2017, TRAI officially released the draft recommendations titled “Recommendations on Net Neutrality” . In this paper, TRAI coins net neutrality as an idea that represents “a maximally useful public information network that aspires to treat all content, sites and platforms equally”. Some major highlights of this paper with regard to consultation responses are as follows :

1. “Preferential treatment”, which was the term used by the Authority in the consultation paper, was defined by many as any practice of transmitting particular content and/or services available on the Internet at a higher priority than others. Some stakeholders, which included TSPs and others, suggested that only “**paid prioritization**”, the term used by the United States Federal Communications Commission (FCC) in their Open Internet Order, 2015, should be used instead.
2. Specialized services are commonly understood to mean services which are provisioned for specific content, requiring a minimum quality of service. To avoid any confusion, some jurisdictions have found it useful to specifically exclude certain types of services from the scope of their net neutrality rules.
3. Another concern that was expressed was that TSPs may enter into cross ownership and privileged arrangements in the name of specialized services, which would have a negative effect on start-ups and new businesses

Some recommendations that were discussed in the same paper are as follows:

1. A Licensee providing Internet Access Service shall not engage in any discriminatory treatment of content, including based on the sender or receiver, the protocols being used or the user equipment.
2. The Licensee is prohibited from entering into any arrangement, agreement or contract, by whatever name called, with any person, natural or legal, that has the effect of discriminatory treatment of content.
3. “Discriminatory treatment” shall include any form of discrimination, restriction or interference in the treatment of content, including practices like blocking, degrading, slowing down or granting preferential speeds or treatment to any content.
4. Specialized services” shall mean services other than Internet Access Services that are optimized for specific content, protocols or user equipment, where the optimization is necessary in order to meet specific quality of service requirements.

The aforementioned points from TRAI's recommendations have incorporated a wide range of issues with regard to net neutrality. Some findings point towards a modification of the definition of net neutrality such that 'vague' terminologies such as preferential treatment may be replaced by more quantitative metrics such as paid prioritization. Furthermore, exceptions to the rule of net neutrality in the form of specialized services are defined, albeit not rigorously. The acknowledgement of net neutrality's implication on smaller businesses is a massive step towards the right direction; issues of net neutrality not only affect the telecom sector, but now have varying implications on the overall economic operations of a nation in the context of the free market system.

Years following the release of TRAI's recommendation paper have seen great improvement for net neutrality. In 2018, The Department of Telecommunications officially incorporated the principles of net neutrality into a **Unified License**, a legal document which is responsible for the governing of all telecom operators/TSPs and internet service providers operating within the nation.

TRAI and DoT have, in regular intervals, instigated discussion and change surrounding the issue of net neutrality. In 2023, an important consultation paper on '*Regulatory Mechanism for Over-The-Top (OTT) Communication Services, and Selective Banning of OTT Services*' was released. The paper identified, classified, analyzed OTT communication services and decreed the importance of formulating a regulatory framework which takes into consideration the decline in the **voice market** and rise in other forms of communication via OTT services.

Economic and Social Implications of Net Neutrality in India

The debate around Net Neutrality has, in recent years, evolved to be more economic in nature. Christopher S. Yoo, a prominent figure in the realm of technology, innovation and fair competition has been at the forefront of this topic's discussion. Yoo believes that small ISPs should be incentivized to enter the market; a high upfront cost (*fixed cost*) required for broadband infrastructure naturally acts as a barrier to entry for smaller ISPs. This way smaller ISPs can focus on more affordable forms of business operations that cater to low capacity users. This would naturally create a market dictated by the forces of **innovation, competition** and no **barriers to entry**, effectively constructing a free market economy.

There is still another dimension to consider on the competitive front. A fundamental concern against the free market prospect is the existence of influential ISP companies that, for their merit, would pursue **vertical integration** of influential ISPs and content providers. ¹ Vertical integration is a

¹Vertical integration is a strategy in which a firm operates two or more stages in a multiple stage process of production. This strategy helps for cost reduction.

strategy widely used in many business sectors, though it's especially problematic for the telecom sector. A telecom firm that has vertically integrated an online service provider could promote its own websites, applications of content over others. This concern of prioritization doesn't end at vertical integration. A non-integrative approach of businesses favoring one another for commercial or other means could also have the same outcome of content discrimination. Ultimately, these concerns exist because of a lack of competition in the telecom sector which is a consequence of barriers to entry for smaller firms. The existence of smaller firms would allow for the alleviation of strategies that concern content prioritization or bias.

Another major economic concern regarding net neutrality and its implementation in India is with reference to content 'value'. The regulations of India suggest that since paid-prioritization is against regulations, firms are compelled to charge on the basis of **volume**, not 'quality' or 'value'². The pricing of goods or services based on volume as opposed to value derived is somewhat counterintuitive; competitive markets would dictate that pricing happens on the basis of value. This entails that all content that flows through the ISPs must be from the same channel, regardless of utility, creating unnecessary delays, traffic and compromising the market's natural efficiencies.

Further concerns around social justice, inequality of opportunities and education have been discussed as an implication of net neutrality. Proponents of net neutrality argue that net neutrality has the potential to bring the 'internet' back to what it was supposed to be, by definition. Democratizing information about policies, climate change, vaccinations, food security, immigration, economics, human rights etc are all possible due to net neutrality. Putting the common man at the helm of information sharing is a symbol of social justice.

Net neutrality's scope is vast, and its implications unending. Below are some of its economic and social implications that are especially important in the context of India:

1. ³In the US, network discrimination has shown that it can thwart access to educational opportunities for P-20 learners. Access to information is incredibly important for India's trajectory of growth (economic, social) to be achieved. The push for MOOCs and free courses by the Government of India through the SWAYAM portal is evidence of its fight against the issue of inequality in accessing education.

² <https://journals.sagepub.com/doi/pdf/10.1177/17835917211068789>

³ <https://files.eric.ed.gov/fulltext/EJ1155805.pdf>

2. The idea of a 'Digital Economy' has seen a rise in recent years with innovation and investment increasing rapidly in internet-based businesses which have further allowed for the creation of employment opportunities. An estimate in 2019 by the World Bank suggests net neutrality could contribute up to \$1 trillion dollars to the Indian economy by the year 2025.
3. TRAI data shows that monthly data consumption per user has increased from around 4.8 GB in 2016 to an astounding 18.7 GB in 2022. While this is not as large as the figure of 530+ GB per month as seen in North America, it is still an indicator of progress.

Global Perspectives on Net Neutrality

The issue of net neutrality has seen a wide range of responses from a policy point of view. The policy response from nations can be categorized into different qualitative regions ranging from no implementation to strong implementation.

Slovenia and Netherlands are seen as the 'flagships' nations of net neutrality policy implementation. Slovenia first enacted its laws in 2012 and became one of Europe's first to do so. Its laws prohibited ISPs from **blocking, throttling** and **prioritizing** data packets. Slovenia's net neutrality laws are enforced by The Agency for Communication Networks and Services (AKOS), and are vested with the authority of investigating violations and imposing sanctions should the need be. The implementation of net neutrality laws have been termed a huge success.

The Netherlands implemented their net neutrality laws in 2011 whereby it was stated, besides technical aspects of net neutrality, that 'users have the freedom to access and use the internet without limitations'. The Authority for Consumers and Markets was responsible for seeing compliance over net neutrality regulations as it was the competition regular in the country. The country has one of the highest internet penetrations in the world and a highly successful net neutrality policy.

On the other side of the spectrum is Australia that doesn't have legislation for net neutrality. Australia doesn't have an issue pertaining to access for the internet as it has a high internet penetration of more than 87%. According to the World Bank, Australia's highly competitive broadband market ensures that no single company can restrict, filter, prioritize content without having 'adverse commercial consequences'.⁴ The Competition and Consumer Act 2010 does prohibit ISPs from engaging in

⁴ <https://ppp.worldbank.org/public-private-partnership/telecom-and-ict/net-neutrality>

anti-competitive behavior that lessens competition within the market. However, this regulation doesn't explicitly prohibit breaches to net neutrality.

Despite Australia's non-existent laws, a pre-existing competitive market for telecom has all but ensured the existence of dynamics such that net neutrality is followed. Regulations across the world are seen to widely vary, yet within this varying frameworks we find effective implementation across the spectrum.

The table below summarizes net neutrality practices alongside some metrics that allow for direct comparison between **type of approach** and associated results (*no causality inferred*)

Country	Level	Qualitative	Quantitative (Freedom House Report)
Netherlands	Excellent	Transparent and accountable mechanisms in place	90
South Korea	Good	Only guidelines in place; incidents of prohibitive treatment by government and telecom	88
Japan	Medium	Active debate, and strong guidelines for net neutrality	85
USA	Medium	Ongoing legal battles for net neutrality, potential loopholes	80
China	Poor	Tiered data plans	10

Country	Level	Qualitative	Quantitative (Freedom House Report)
		available and content blocking widespread	
Russia	Poor	Traffic prioritization and government restrictions	12

Table Number And Explanation On Table Required

Table 1.0 : Qualitative and quantitative descriptions of net neutrality approach by nation on a varying scale (good to poor).

The quantitative value is the value associated with each country in the **freedom house report 2023** . This is an annual report that assesses the ‘level’ of internet freedom across the world by providing a critical analysis of online rights and trends of internet freedom. It uses a framework in which **experts** rate nations on the basis of **obstacles to access , limit on content** and **violation of user rights**. It must be noted that **subjectivity** is a potential critique for the methodology utilized in the calculation of such a score. Furthermore, the methodology fails to incorporate private companies and their respective role in the domain of net neutrality as it mainly focuses only on the actions of the government in curtailing access.

Lessons to Learn from Global Perspectives

As seen from India's approach towards net neutrality, experts worry about the lack of a 'hands-on' approach. Arun Mohan Sukumar, a senior fellow at the Centre for Communication Governance, National Law University, advocated for a hands-on parliamentary approach towards net neutrality. An analysis of global perspectives evidently shows that politicians have heavily utilized the public support in favor of net neutrality to advocate for legislation formulation. For example, Barack Obama, during his presidency, had successfully regulated internet services after having politically championed it.

Although experts agree that formalizing claims of net neutrality through the parliament is necessary, its nuances must not be missed. For example, Mahesh Uppal, Director of consultancy Com First (India), recommended that the regulations be technology agnostic (*a mindset that encourages engineers to remain open-minded and unbiased when evaluating various technologies, platforms and languages*). The purpose of this agnosticism was to ensure that underlying technology as well as licensing and market structures were accommodated during the formulation of legislation.

Pushing for 'formalization' of demands for net neutrality directly leads to the formation of a framework by which the legislation must be implemented. Though bureaucracy and institutions have long been proponents of net neutrality, it is essential that legislation is made and adopted after thorough research on the prospective legislation.

Whatever legislation is to be formulated after consideration of social and economic costs and benefits, it is essential it be done while allowing for the inclusion of the following points :

1. Prospective legislation shall provide distinguished definitions for **blocking, throttling and paid prioritization** of internet traffic by internet and telecommunications service providers (ISP / TSP)
2. Legislation must explicitly state the legality status of each well defined term, and should consider the same for loopholes such as 'zero-rating', a practice by which ISPs provide internet access without a price associated with the service, effectively resulting in prioritization
3. ISPs policy for transparency around network management as well as performance metrics; metrics such as download/upload speeds, latency and packet loss can reveal information to the public about any potential 'unfair' treatment of data packets
4. Legislation must implement robust mechanisms that are tied to fair competition and antitrust policies

5. Consider ISPs, their business practices as well as their demands and make a formal pathway by which their demands can be discussed upon and solved

Outlook and Policy Suggestions

It is evident from our understanding of global perspectives that **legislation** itself doesn't dictate healthy practices of net neutrality ; a competitive market in the telecom sector is both a prerequisite and a consequence of effective implementation of net neutrality.

During the discourse on net neutrality, it is essential to understand that telecom operators and ISPs are indeed businesses that, like in any other industry, seek to increase growth, revenue and profits. Especially with declining revenue for telecom operators via voice calls and SMS due to the now ubiquitous nature of OTT services , it is natural to expect business strategies to change. This foreseeable change could come forward as a challenge to net neutrality. Therefore, it is more important than ever to implement existing policy while being open towards prospective changes that favor the telecom industry. This change need not alter the consumers' right to the open internet. Maintaining the line between consumer and business welfare is a delicate one. The future of the telecom industry hinges on the policymaking and implementation that is to come in the near future. An approach that incorporates a holistic outlook on the industry is required.

Despite India's frequent meddling with the issue of net neutrality, legislation is yet to be formulated. The future could see legislation formulation, an approach different to that of TRAI's guidelines.

Some policy suggestions that may elevate the overall industry while maintaining the perspective on net neutrality are as follows:

1. Promoting Economic Competition in the Telecom Industry (Spectrum Management)
 - A competitive market entails the existence of multiple producers/providers that compete with one another for the production of goods; it also implies that there are no barriers to entry within the industry and no single firm is large enough to be able to influence the prices of the industry. It is evident from analyzing global perspectives that a competitive industry means that net neutrality is followed by the market dynamics, many times without being dictated by legislation.

Spectrum management is a possible measure by which India could reinstate competition into the industry, now operating as an oligopoly. **'Set-asides'** , an auction measure in which a portion of the spectrum is made available to new entrants, is a measure that has , in Chile, been effective. This would effectively increase competition within the industry, allowing for free market dynamics to dictate the terms of net neutrality.

2. Merger Controls and Anti-Competitive Practices (Preserving Competition)

- Even if smaller entrants operate in the telecom industry, it is highly plausible they will be acquired by larger firms operating in the industry. This would effectively decrease the competition in the market.

To avoid such outcomes, regulations for merger control and anti-competitive practices must be put in place. A way to ensure this is by issuing a **golden share** to the government while licensing small companies. The golden share would allow the holder, in this case the government, to **veto** decisions over any proposals for acquisitions. This would allow the interests of the smaller players to be preserved, while simultaneously preserving free market dynamics and consumer welfare.

Conclusion

The issue of net neutrality is incredibly complex and requires a working knowledge of the dynamics of the telecom industry. It is essential to achieve net neutrality for the purpose of economic and social welfare. At the same time it is essential to ensure that telecom operators are not restricted from strategizing in their respective industry. The formulation of guidelines, regulations and legislation is incredibly important for some nations (Netherlands, Slovenia) , while some nations can achieve it merely through competitive markets (Australia).

India could strive to find a balance in between the two approaches by promulgating guidelines and legislation while allowing for the entry of smaller firms to move away from the present 'oligopolistic' structure of the telecom market.

With India rapidly undergoing digitalization, it has become more necessary than ever to ensure the continuation of net neutrality. Knowledge sharing, access to information about human rights, reproductive health and more are all **examples** of social gains received through net neutrality. Over the long run, net neutrality can play a large role in reducing inequality across the country. Hence it is of

utmost importance that the government formulate policies that take consumer welfare into consideration while at the same time preserving the interests of competitors in the market.

References

1. <https://www.trai.gov.in/>
2. <https://gppreview.com/2019/08/20/net-neutrality-economic-debate/>
3. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3492267
4. <https://journals.sagepub.com/doi/pdf/10.1177/17835917211068789>
5. <https://files.eric.ed.gov/fulltext/EJ1155805.pdf>
6. https://tra.gov.in/sites/default/files/CP_NetNeutrality2017_01_04.pdf
7. https://www.trai.gov.in/sites/default/files/QPIR_05052022.pdf