

31 August 2023

Shri Akhilesh Kumar Trivedi
Advisor (Networks, Spectrum and Licensing)
Telecom Regulatory Authority of India
Mahanagar Door Sanchar Bhawan, Jawaharlal Nehru, New Delhi – 110002

Sub: Esya Centre's comments on TRAI's CP on Regulatory Mechanism for Over-the-Top (OTT) Communication Services and Selective Banning of OTT Services

Dear Sir,

The Esya Centre is a New Delhi-based technology policy think-tank. Its mission is to generate empirical research and inform thought leadership to catalyse new policy constructs for the future. It simultaneously aims to build domestic institutional capacities for generating ideas that enjoin the triad of people, innovation and value, consequently helping reimagine the public policy discourse in India. More information can be found at: www.esyacentre.org.

In this context, we are delighted to be afforded the opportunity to submit our comments on TRAI's CP on on Regulatory Mechanism for Over-the-Top (OTT) Communication Services and Selective Banning of OTT Services. We laud the TRAI for holding this open consultation process and fielding feedback from a diverse set of stakeholders. Please find enclosed a copy of our comments.

Thanking you and looking forward to a favourable consideration of suggestions in the interest of the growth of the internet in the country.

Sincerely,
Noyanika Batta
Junior Fellow
Esya Centre

Detailed Response to TRAI's Consultation Paper on Regulatory Mechanism for Over-the-Top (OTT) Communication Services, and selective banning of OTT services

Q.1 Please provide your views on the following aspects of OTT communication services vis-a-vis licensed telecommunication services in India:

- a) regulatory aspects;
- b) economic aspects;
- c) security aspects;
- d) privacy aspects;
- e) safety aspects;
- f) quality of service aspects;
- g) consumer grievance redressal aspects; and
- h) any other aspects.

Our response:

Regulatory aspects: The regulatory rationale underpinning traditional telecommunications regulations is closely linked to the nature of telecom services as critical infrastructure, necessitating strict regulatory obligations to ensure universal access and quality of services. Telecom service providers are thus heavily regulated in terms of spectrum allocation, interconnection agreements, emergency service compliance, and other obligations.

However, OTT communication services differ significantly as they do not rely on spectrum resources or control internet access points. Therefore, subjecting OTT apps to the same regulatory obligations as licensed telecommunication services is unnecessary. Moreover, OTT providers are already governed by existing laws governing privacy, confidentiality, interception, cybersecurity etc., ensuring their compliance with essential requirements. The distinction between the two types of services thus requires a differentiated regulatory approach to promote a competitive landscape and encourage innovation without hindering OTTs with unnecessary regulatory burdens.

Economic aspects: The economic differences between OTT communication services and licensed telecommunication services are significant. Traditional telecom networks being capital intensive, require high upfront investments in network infrastructure, spectrum acquisition and other fixed costs. For wireline carriers, the initial costs include digging trenches and laying thousands of miles of wires to reach customer locations. For wireless carriers, the start-up costs can include the price of acquiring spectrum rights, deploying a network of cellular towers and installing or leasing wires to connect these to network switches. These high entry barriers can lead to limited competition and a concentrated market dominated by few telecom service providers.¹

In contrast, OTT services benefit from lower entry barriers and lower capital requirements. Setting up an OTT requires considerably less investment enabling multiple players to enter the market. For example- an OTT app can be set up for as little as USD 5,000 (INR 4L) for an app with limited functionality and can go up to USD 40,000 (33L) for varied functionalities.² The lower cost of entry and the ability to quickly scale and adapt to changing consumer demands are key factors driving the growth and popularity of OTT services. Implementing stringent regulations designed to address the monopolistic tendencies of traditional telecom services may impose unnecessary burdens on OTTs, hampering their ability to compete effectively and stifle innovation.

Privacy and security aspects: Privacy, security, and safety aspects are covered under the Information Technology Act and these aspects are likely to be covered under the Digital India

¹ Centre for the Policy Research, '[Response to TRAI CP on regulatory framework for OTT communication services](#)' (2018)

² R. Jain, '[How much does it cost to create an OTT app](#)', Enveu (November 2021)

Act. The Draft Digital Personal Data Protection Act 2023 also tackles issues related to data breaches, privacy and security concerns. The Act operates as a comprehensive code to govern the data practices of all data fiduciaries, including OTT services. The Act will dictate the grounds for processing personal data, the manner in which consent shall be obtained, and other obligations of data fiduciaries. The Act sets out penalties for violation of its stipulations.

Quality of service aspects: Quality of OTT services largely depends on the underlying network infrastructure, which is already regulated by the TRAI for licensed telecom services. Applying additional quality of service regulations at the application layer would be redundant and unnecessary.

Consumer grievance redressal aspects: The Consumer Protection Act, 2019 and E-Commerce Rules 2020 establish the framework for redressing consumer complaints and grievances with regard to goods and services purchased online. The IT (Intermediary Guidelines) Rules, 2021 also establish a three-tiered redressal mechanism to address complaints against digital median publishers. The first level is self-regulation by OTT platforms, the second is self-regulation by the self-regulating bodies of publishers, and the third level is an oversight mechanism.

Q.2 Whether there is a need to bring OTT communication services under any licensing/regulatory framework to promote a competitive landscape for the benefit of consumers and service innovation? Kindly provide a detailed response with justification.

Our response:

The TRAI CP advocates for competitive neutrality between OTT communication services and traditional telecommunication services. It highlights that while telecom service providers need a telecommunication license to offer their services, OTT communication service providers offer similar services without such a requirement. However, attempting to establish competitive neutrality through a licensing/regulatory framework for OTT communication services is not the appropriate solution. There are fundamental differences between these services, which necessitate their separate treatment for legal and regulatory purposes. These have been detailed below:

Technical and Operational Differences: Telecom services and OTT services operate in different layers. Telecom services function in the network layer, controlling the critical infrastructure and providing internet connectivity. Telcos effectively act as gatekeepers of the internet and control all broadband access. In contrast, OTTs operate in the user-facing application layer. They offer applications for the exchange of content over the internet. OTTs thus rely on telecom networks to reach customers, making them dependent on the underlying infrastructure established by telcos. This dependence is not equivalently mutual, as OTT are reliant on telcos for customer reach, whereas the reverse is not true. OTT services cannot therefore be treated at par with traditional telecom services. For services to be considered peers and equated in terms of licensing/regulatory regime, they should be independent or mutually dependent, which is not the case with OTT services and telecom services.

Exclusive Rights and Privileges: Telcos enjoy several exclusive rights such as the right to acquire spectrum, the right to obtain numbering resources, the right to interconnect with the PSTN and the right of way to set up infrastructure. These privileges are not available to OTT service providers. Unlike telcos, OTTs do not control internet access points, further differentiating their roles and responsibilities.

Regulatory obligations and spectrum use: Regulatory obligations such as quality of services, tariff, and interconnection apply to telecom service providers due to their control over the spectrum. Spectrum is a scarce public resource of immense national importance which is susceptible to degradation due to inadequate or insufficient utilisation. Resultantly, government

policy regulation has traditionally maintained tight control of access to spectrum frequencies.³ Since OTT services do not utilise this limited resource, there is no need for them to be subject to a licensing regime.

The Competition Commission of India has also drawn a distinction between communications OTT services and traditional telecom carriage services. In *Sbri Vinod Kumar Gupta vs. Whatsapp Inc.*⁴, the CCI used a market characteristics approach to identify the differences between the instant messaging applications like WhatsApp, and traditional telecommunications services. The CCI observed that WhatsApp could not be equated with traditional electronic communication services such as texting and voice telephony as provided by telcos. First, the former depends on the internet and provides several additional functionalities. Illustratively, instant communication applications allow you to see when your contacts are online or if they are typing you a message. Additionally, OTT communication applications generally only operate on smartphones, and now some feature phones, whereas traditional telecommunications services may operate on all mobile phones. Third, OTT communication applications are not interoperable whereas traditional communications services are.

In conclusion, it is crucial to recognise the different characteristics of OTT communication apps and refrain from subjecting them to traditional telecom regulations.

Q.3 In case it is decided to bring OTT communication services under a licensing/ regulatory framework, what licensing/ regulatory framework(s) would be appropriate for the various classes of OTT communication services as envisaged in the question number 4 above?

Specifically, what should be the provisions in the licensing/ regulatory framework(s) for OTT Communication services in respect of the following aspects:

- (a) lawful interception;**
- (b) privacy and security;**
- (c) emergency services;**
- (d) unsolicited commercial communication;**
- (e) customer verification;**
- (f) quality of service;**
- (g) consumer grievance redressal;**
- (h) eligibility conditions;**
- (i) financial conditions (such as application processing fee, entry fee, license fee, bank guarantees etc.); and**
- (j) any other aspects (please specify).**

Our response:

OTT providers are subject to several obligations governing interception. Privacy and security, consumer protection etc. under existing laws. Therefore, OTT services are already regulated in terms of the aspects cited above.

	Applicable Regulations & Description
Lawful interception	Obligations for lawful interception already exist for OTT services under the Information Technology Act, 2000. Section 69 gives the Government the power to require a subscriber, intermediary or any person in-charge of a computer resource to provide access and also intercept, monitor or decrypt the information stored on the computer resource. Section 69B

³ Nicholas Economides, *Telecommunications Regulation: An Introduction*, NET Institute Working Paper No. 04-20, NYU Working Paper No. EC-04-10 (August 2004).

⁴ *Sbri Vinod Kumar Gupta vs. Whatsapp Inc.*, Competition Commission of India, Case No. 99 of 2016

	<p>empowers the government to monitor and collect traffic data or information through any computer resource for cyber security.</p> <p>These provisions along with the IT (Procedure and Safeguards for Interception, Monitoring and Decryption of Information) Rules, 2009 and Information Technology (Procedure and safeguard for Monitoring and Collecting Traffic Data or Information) Rules, 2009 lay down the regulatory framework for the State and Central Governments to engage in lawful interception of data being transmitted over internet communication services.</p> <p>Thus, there are sufficient safeguards to ensure that if law enforcement requires any kind of access to be facilitated, such access may be enabled by communication OTT service providers.</p>
Privacy, security & safety	<p>These aspects are already governed by the IT Act and IT (Reasonable Security Practices and Procedures and Sensitive Personal Data or Information) Rules, 2011. They will also be covered under the Digital India Act and Draft Digital Personal Data Protection Bill 2023, currently in the works, to tackle issues concerning data breaches, privacy and security concerns.</p> <p>Section 43A of the IT Act provides for compensation if an intermediary is negligent in using reasonable and good quality security and safety standards to protect data or information in a computer resource. The provision is applicable to OTTs.</p> <p>Additionally, sectoral regulations like the RBI Tokenisation Guidelines (Circular dated 07.09.2021) ensure enhanced user privacy and card security by prohibiting the storage of sensitive card information (card numbers, CVV, expiration date etc.) by e-commerce entities, including OTTs.</p>
Emergency services	<p>Emergency services should be exclusively offered by telcos for several reasons.</p> <p>Firstly, telcos connect large populations across the country and provide essential services. OTT services lack the same criticality and last-mile access to users. Mandating emergency service obligations for OTT providers would be impractical as they cannot manage the last mile access necessary for such services.⁵ From a consumer standpoint, OTT users access these services through telecom networks, ensuring that they can still avail emergency services provided by telcos.</p> <p>Second, emergency services rely on location information from GPS and tower location, which telcos have access to. In contrast, OTT services can only access locational data if users permit GPS data collection.⁶</p> <p>Third, most public-safety answering points (PSAP) are not equipped to handle incoming emergency communications from non-interconnected OTT services. Full-fledged IP-PSTN connectivity is not permitted in India, further limiting the ability of OTT services to provide effective emergency services.</p>
Customer identification	<p>Most Internet Services and Platforms providing communication services today use an one-time password (OTP) based authentication system to</p>

⁵ IAFI Response 2018 OTT Consultation

⁶ Ibid

	authenticate the user by sending an SMS or calling the registered mobile number. Given that the DoT itself has recognized usage of an OTP based authentication system as being adequate for the purposes of Know Your Customer (KYC) for public WiFi, the same logic may also be used in relation to such internet services.
Quality of services	Quality of OTT services largely depends on the underlying network infrastructure, which is already regulated by the TRAI for licensed telecom services. Applying additional quality of service regulations at the application layer would be redundant and unnecessary.
Consumer Grievance Redressal	The Consumer Protection Act, 2019 and E-commerce Rules 2020 establish the framework for redressing consumer complaints and grievances regarding goods and services purchased online. The IT (Intermediary Guidelines) Rules, 2021 also establish a three-tiered redressal mechanism to address complaints against OTT providers.
Financial conditions	OTT services do not utilize the limited public resource of spectrum and do not provide access to a network. As a result, there is no need for a licensing regime or the imposition of financial levies such as entry fee, license fee etc.

Q.4 Whether there is a need for a collaborative framework between OTT communication service providers and the licensed telecommunication service providers? If yes, what should be the provisions of such a collaborative framework? Kindly provide a detailed response with justification.

Our response:

There is no need for a collaborative framework between OTT communication service providers and telecom service providers. **Their relationship is inherently symbiotic and mutually beneficial.** Telcos provide the necessary transmission capacity, while OTTs offer captivating content that drives the demand for this capacity. Without the engaging content provided by OTTs, the transmission pipes would remain underutilized, rendering telecom operations unviable. This interdependence is the bedrock of their coexistence, ensuring that consumers have access to a diverse range of OTT content while telecom players witness increased data usage and revenue.

As consumers engage with more bandwidth-intensive OTT services, their demand for data packs and higher-tiered services also increases. This, in turn leads to tariff adjustments and a surge in telecom revenues. For example- tariffs have jumped by 57% in certain telecom circles in response to increased data usage. This has resulted in an estimated 20-25 increase in the combined revenues of major telecom players in India.

Second, the cost of IP infrastructure is not very sensitive to traffic volume. An Analysys Mason report reveals that **the annual spend of telecom operators remained stable despite a rapid increase in global internet traffic.**⁷ Between 2018 and 2021, global traffic increased by over 160 percent, but network related costs only increased by three percent. This indicates that telecom networks can handle significant increase in traffic without substantial additional costs. Further, the cost of such upgrades is very low compared to the total network capacity, despite significantly boosting capacity. As per a report by Ericsson, the cost per GB for network service providers decreases as user traffic increases because traffic grows more than investment, reducing the cost of each additional GB delivered.⁸ The manageable cost of upgrading and expanding network

⁷ D. Abecassis et al., *'The impact of tech companies network investment on the economics of broadband ISPs'*, Analysys Mason (October 2022)

⁸ Ericsson, *'Understanding the Economics of 5G Deployments'* (June 2020)

capacity further negates the need for a collaborative framework to address any perceived cost-related concerns.

Third, the **substantial investments made by OTT providers in network infrastructure demonstrate a collaborative ecosystem**, where OTTs have taken proactive steps to alleviate the burden on telecom networks. This has saved telcos billions of dollars. From 2011-2022, OTTs invested nearly USD 900 billion in network infrastructure, with an average annual spend of approx. USD 120 billion between 2018 and 2021.⁹ These investments include network components such as content delivery networks (CDNs), public clouds, submarine cables, data centres and data cache servers.¹⁰ These facilities have helped speed up data delivery and reduce the strain on telecom networks by caching content closer to the user, for free¹¹. The cost difference in delivering this data from thousands of miles versus a few miles across billions of content requests is what is saved and it adds up to billions every year for telecom service providers.¹²

These voluntary efforts by OTT providers to invest in network infrastructure underscore their commitment to mutual collaboration within the ecosystem. This organic cooperation further reinforces that there is no need for a collaborative framework between telcos and OTTs, as the current ecosystem already supports harmonious coexistence and growth, benefiting both consumers and service providers.

Q.5 What could be the potential challenges arising out of the collaborative framework between OTT communication service providers and the licensed telecommunication service providers?

How will it impact the aspects of net neutrality, consumer access and consumer choice etc.? What measures can be taken to address such challenges? Kindly provide a detailed response with justification

Our response:

The Internet's technologies and standards are developed, managed, and governed in an open and collaborative way. This ethos extends to both the construction and operation of the Internet itself, as well as the services it supports.¹³ The voluntary interconnection model that underpins the Internet facilitates collaboration across a diverse set of interconnection arrangements. The introduction of mandatory cost-sharing, will however narrow the scope of available options for collaboration among network operators and content providers. It can restrict their ability to engage in settlement-free peering, while also burdening them with compliance-related administrative costs.

The internet operates as a network of interconnected networks, enabling seamless information exchange through peering and transit agreements.¹⁴ Peering connects providers with similar network and traffic profiles. However, relying solely on peering is impractical for comprehensive internet access, as providers would need countless arrangements. Only a few tier-1 network providers (backbone networks) achieve complete internet access via peering. These providers then offer online access to smaller entities like ISPs or OTTs through transit agreements.¹⁵ These

⁹ C. Liu, E. Falcon & K. Trendacosta, '[Network usage fees will harm European Consumers and Businesses](#)', Electronic Frontier Foundation (December 2022)

¹⁰ Ibid

¹¹ R. Browne, '[U.S. tech giants face pressure from Europe's telcos to pay for building the internet](#)', CNBC (October 2022)

¹² C. Liu, E. Falcon & K. Trendacosta, '[Network usage fees will harm European Consumers and Businesses](#)', Electronic Frontier Foundation (December 2022)

¹³ C. Gahnberg et al., '[Internet Impact Brief: South Korea's Interconnection Rules](#)', Internet Society (May 2022)

¹⁴ '[Internet Way of Networking: Championing a healthy foundation for the global internet](#)', Internet Society (June 2020)

¹⁵ D. Abecassis, M. Kende, S. Osman, R. Space & N. Choi, '[The impact of tech companies network investment on the economics of broadband ISPs?](#)', Analysys Mason (October 2022)

agreements hinge upon voluntary commercial negotiations.¹⁶ The introduction a network usage fee threatens to disrupt the internet’s networking model, altering the internet’s core values of openness and flexibility. The change could complicate interconnection, eroding the simplicity and adaptability of peering and transit agreements.¹⁷ Application service providers would need to negotiate separate agreements with each carrier, necessitating carriers to meticulously track traffic and payments. Regulatory safeguards against payment manipulation would further escalate complexity and costs.¹⁸ Thus, a mandatory cost-sharing framework would limit the autonomy of networks to negotiate interconnections, potentially culminating in inefficient traffic, higher costs, and reduced service quality for users.

Further, the introduction of a network usage fee contradicts the principle of net neutrality, which advocates for equal treatment of all online content by internet access providers. The imposition of a network usage fee could lead to scenarios where OTT providers unwilling or unable to pay the fee might experience intentional slowing down or even complete blocking by telecom operators. This compromises the principle of equal treatment of all online content and undermines consumer control over their online experience.

Moreover, a network usage fee may raise costs for accessing OTT services, dissuading users from accessing certain services and limiting user choice. The South Korean experience serves as a cautionary examples of how such fees led to inefficient traffic flows and higher costs for OTT services. The mandated paid-peering arrangements in South Korea resulted in increased latency and higher subscription costs for consumers. Illustratively, as per a recent OECD study, the country now has the highest latency rate amongst all OECD countries.¹⁹ In South Korea, from approximately 120 milliseconds in 2018, latency had climbed to almost 160 milliseconds in 2020.²⁰ Consumers in South Korea also saw their Netflix subscription rates increase by 12.5 percent in recent year as a direct consequence of the dispute between the OTT content service provider and the South Korean internet service provider SK Broadband over network usage fees.²¹ The imposition of a network usage fee in South Korea also had notable impacts on the future of data and internet use in the country, with both foreign and domestic OTTs choosing to suspend or degrade their services, or simply exit the market rather than pay high interconnection charges to the ISPs.

To conclude, the introduction of network usage fees threatens the collaborative and open nature of the internet, compromises net neutrality, raises costs and limits user choice and may result in service disruptions.

Q.6 Issues related to the selective banning of OTT services

Our response:

The rise in internet shutdowns in India has become a growing concern, with the country witnessing the highest number of internet suspensions worldwide.²² Between January 2012 and June 2022, there were 647 government-imposed internet shutdowns across India.²³ These internet shutdowns have proven to be economically detrimental, costing the Indian economy

¹⁶ Internet Society, [‘Submission to TRAI on the consultation on Regulating Converged Digital Technologies and Services – Enabling Convergence of Carriage of Broadcasting and Telecommunication Services’](#) (February 2023)

¹⁷ C. Gahnberg et al., [‘Internet Impact Brief: South Korea’s Interconnection Rules’](#), Internet Society (May 2022)

¹⁸ *Ibid*

¹⁹ Organisation for Economic Cooperation and Development, [‘Broadband networks of the future’](#), OECD Digital Economy Papers, No. 327 (2022)

²⁰ *Ibid*

²¹ [‘Netflix raises subscription fees in South Korea amid controversies over network usage’](#), Yonhap News (April 2023)

²² J. Pankaj, [‘Mapping the rising internet shutdowns in India since 2016’](#), The Wire (October 2022)

²³ T. Basuroy, [‘Number of government-imposed internet shutdowns in India from 2012 to 2022’](#), Statista (June 2022)

billions of dollars. A report by Brookings revealed that between July 2015 and June 2016, 1,692 hours of internet shutdowns in India cost the economy \$968 million.²⁴ The cost rose to \$2.8 billion in 2020 for an estimated 8,927 hours of internet censorship.²⁵ This means that the average cost of an Internet shutdown in India in 2020 was over Rs 2.34 crore per hour.²⁶ The economic impact, however is just one aspect of the issue.

Internet shutdowns have severe implications for citizens, as they hinder communication, access to essential services, education and news. Considering the impact of internet shutdowns on modern society, the Supreme Court in *Anuradha Bhasin vs Union of India*²⁷, ruled that the freedom of free speech and expression on the internet is a fundamental right under Article 19(1)(a) of the Constitution. The Court also emphasized that internet suspension is a drastic measure that should be taken only if necessary and unavoidable, after exploring less intrusive alternatives. Despite these concerns and judicial observations, internet shutdowns continue to be imposed, even without apparent justification. Recently, internet shutdowns were used to prevent cheating during exams.²⁸

The rise in internet shutdowns in India also comes against the backdrop of the United Nations Human Rights Committee (UNHRC) passing a resolution in 2016, declaring access to the internet a basic human right. It also urged states to refrain from intentionally preventing the dissemination of information to the common people in online mode.²⁹ Thus, the broader debate about internet shutdowns needs to be addressed comprehensively.

Resorting to selective banning of OTT services as an alternative to a blanket ban on the internet is not a viable option. It could potentially make internet shutdowns more rampant and negatively affect people's fundamental rights. Selective blocking of apps also raises concerns about privacy and user identification. Selective blocking can be carried out either through OTTs or telecom operators. When implemented through OTTs, it relies on user identification based on cell ID or GPS location information. However, this method compromises user privacy as it requires transmitting user location information every time they use the OTT service. Consequently, this approach is not a viable option due to its privacy implications.

Another approach to selective blocking is at the network level, where the destination IP address of the server providing the service is targeted. Obtaining the IP address is a significant challenge as IP addresses are often masked to prevent hacking. To identify the services accurately, deep packet investigation on the URL (web address) is required, but this can lead to latency issues and necessitate substantial infrastructure investments, making it impractical. As a result, this method has not been implemented anywhere in the world.

Given the technical feasibility and privacy concerns with selective banning of OTT services, it is imperative to reconsider such measures as a response to internet shutdowns. Instead, the focus should shift towards examining the broader debate about internet shutdowns and their impact on individual rights, free speech and expression. The government must formulate safeguards to prevent intentional internet shutdowns aimed at restricting the dissemination of information.

²⁴ D.M. West, '[Internet shutdowns cost countries \\$2.4 billion last year](#)', Center for Technology Innovation at Brookings (October 2016)

²⁵ S. Woodhams & S. Migilano, '[Internet Shutdowns: Economic Impact 2019-2023](#)', Top10VPN (July 2023)

²⁶ M. Qureshi, '[Decoding India's dubious distinction as world's shutdown capital](#)', Indian Express (December 2021)

²⁷ (2020) 3 SCC 637

²⁸ R. Garg & K. Bapat, '[Concerned with frequent internet suspensions, Parliamentary Committee recommends overhaul](#)', Internet Freedom Foundation (December 2021)

²⁹ J. Vincent, '[UN condemns internet access disruption as a human right violation](#)', The Verge (July 2016)