

**Submission to TRAI's  
“Consultation Paper on  
Regulatory Framework for Over-  
The-Top (OTT) Communication  
Services”**

## BACKGROUND

With the internet becoming accessible to a significant number of people at more affordable prices, India is going through a digital revolution that is prompting transformative changes in digital payments, health, digital literacy, precision farming, financial inclusion, GIS mapping, rural development, social benefits programmes, and many more. At the heart of it, most of these efforts are aimed at ushering in transformation in governance and accelerating socio-economic development.

India is the world's second-largest telecommunications market, with around 1.19 billion subscribers as of August 2018<sup>1</sup>. During FY07-18, wireless subscriptions witnessed a CAGR of 19.62 % to reach 1,183.41 million. Wireless subscriptions at the end of August 2018 stood at 1,166.90 million. India is also the second largest country in terms of internet subscribers with 512.26 million internet subscribers, as of June 2018. The country is now the world's second largest smartphone market and will have almost one billion unique mobile subscribers by 2020. Revenues from the telecom equipment sector are expected to grow to US\$ 26.38 billion by 2020. The Government of India's National Digital Communications Policy, 2018, envisages attracting investments worth US\$ 100 billion in the telecommunications sector by 2022.

India's telecommunications market is expected to experience further growth, fuelled by increased non-voice revenues and higher penetration in the rural market. Total telecom penetration in the nation's rural market reached 58.61 % in August 2018. The emergence of an affluent middle class is triggering demand for the mobile and internet segments.

OTT Services are products of the permission less innovation that has made the Internet what it is today. OTTs are significant traffic providers to telecom networks. OTTs are helping develop the data services market, which is a crucial priority for telecom operators since voice revenues have plummeted.

<sup>1</sup> "Indian Telecom Industry Analysis, Telecommunications Sector ... - IBEF." 28 Nov. 2018, <https://www.ibef.org/industry/indian-telecommunications-industry-analysis-presentation>. Accessed 2 Dec. 2018.

TSPs future revenues will come from the usage of data services. They have contributed to India's economic growth that closely aligns with the goals of the TRAI Act and the various iterations of the National Digital Communication Policy 2018 which aim to foster an environment for research and development in India and "...aims to remove regulatory barriers and reduce regulatory burden that hampers investments, innovation and consumer interest..."

The over-the-top (OTT) market has been expected to grow at 17.1% over the next decade, and to reach approximately USD 3.49 billion by 2025<sup>2</sup>. The figure below presents the growing OTT revenue worldwide, presenting an estimated 80% increase between 2017 and 2022. According to the International Telecommunication Union (ITU) telecommunication trends report, with machine-to-machine communication, cloud systems, and OTT services, mobile traffic is expected to grow by 61% from 2013 to 2018.

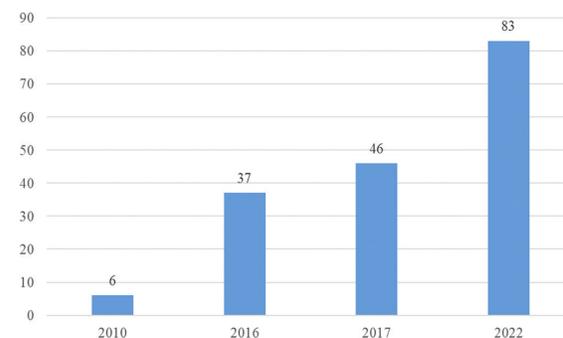


Figure 1: Over-the-top revenue worldwide (2010–2022) (billion \$)

Source: Digital TV Research, Statista, 2017

On 12th November 2018, TRAI released Consultation Paper on Regulatory Framework for Over-The-Top (OTT) Communication Services. The paper raises points on whether OTT services which compete directly with the services of a telecom service provider (TSP) should be subject to the same licensing and regulatory requirements as the TSPs.

The Dialogue, in this literature, considers why regulating OTT services and subjecting them to a 'same service same rules' approach through the

<sup>2</sup> "Methodology for the Regulation of Over-the-top ... - EconJournals.com." <https://www.econjournals.com/index.php/ijefi/article/download/5809/pdf>. Accessed 2 Dec. 2018.

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application of traditional regulatory and licensing requirements to new age technology will be a regressive and backward-looking approach. Instead, the need is to overhaul existing regulations to recognize and accommodate the overwhelming potential of data services as the future.

Our aim for doing extensive research on this topic is to bring forward the points which conclude that a “regulatory imbalance” does not exist. For instance, OTT players are already subject to multiple rigorous regulations such as the IT Act, Income Taxes, Data Protection laws such as CLOUD bill, etc. in addition to the self-regulatory market corrections.

We believe that a balance has to be struck between allowing telcos the opportunity of free market and greater returns on their infrastructure investment, while at the same time, ensuring that access to online content is not discriminated or manipulated at any cost.

In this response paper, we have identified a few critical areas of response to the consultation paper.

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# DEFINING OTT SERVICES

Although TRAI has been unable to define OTT services and OTT players, for this particular Consultation Paper, it has cited definitions from its previous consultations as well as from reports, discussions, and definitions from other jurisdictions.

In basic terms, OTT services are those that generate traffic on fixed and mobile networks include:

1. Communication (Skype, Whatsapp, iMessage, Facetime)
2. real-time entertainment (Netflix, Hulu, YouTube, Spotify)
3. social networking (Facebook, Twitter, LinkedIn, Instagram)
4. marketplaces for downloads (Apple iTunes, Google Android Marketplace, Amazon)
5. file sharing (BitTorrent, eDonkey, Gnutella)
6. storage (Dropbox, Google, Apple, Microsoft)
7. video and computer gaming, and
8. web browsing (HTTP, WAP browsing)

Given that there is currently no universally accepted definition of OTT, the TRAI Consultation Paper has cited the following list that summarizes the diverse definitions of the concept<sup>3</sup>:

- TRAI Consultation Paper 2015 - As a service provider which offers Information and Communication Technology (ICT) services, but **neither operates a network nor leases network capacity from a network operator**. Instead, OTT providers rely on the global internet and access network speeds (ranging from 256 kilobits for messaging to speeds in the range of Megabits (0.5 to 3) for video streaming) to reach the user, hence going “over - the - top” of a TSP’s network. OTT apps:
  - Messaging and voice services (communication services);
  - Application ecosystems (mainly non-real time), linked to social networks, e-commerce
  - Video/audio content.

- ITU discussions - Considers OTT to be any Internet application that may substitute or supplement traditional telecommunication services, from voice calls and text messaging to video and broadcast services.
- DoT Committee Report on Net Neutrality, 2015 - does not provide any specific definition of OTT. As OTT applications enabled by delayering of communications networks through Internet Protocols (IP) that permit the applications layer to function independently of the media layers. Further, the report classified OTT services into two categories:
  - OTT communication services (VoIP) providing a real-time person to person telecommunication services using the network infrastructure of the TSP and competing with them
  - OTT application services such as media services (gaming), trade and commerce services (e-commerce, radio taxi, financial services), cloud services (data hosting and data management platforms or applications), social media etc using the network infrastructure of the TSP but not competing with them
- European Union - Inter alia include ‘interpersonal communication services’ meaning a service that allows the direct interactive interpersonal exchange of information via an electronic communications network between a finite number of people, where the persons initiating/participating in the interaction determine its recipients. This definition would, therefore, exclude broadcasting, general websites, content, web-hosting, gaming and unidirectional information services (such as Twitter), while it would include VoIP services, video calls, text messaging (WhatsApp, SMS, Facebook

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Messenger, etc.) and emails. Aggregated platforms would be classified based on whether they constitute a “minor ancillary feature that is intrinsically linked to another service”.

- BEREC - As “content, a service or an application that is provided to the end user over the public internet”. Three categories:
  - OTT-0: which indicates OTTs that qualify as electronic communication services(ECS) under extant definitions;
  - OTT-1: which indicates OTTs that do not qualify as ECS but potentially compete with traditional TSPs;
  - OTT-2: a residual category of services that do not qualify as ECS and do not compete with traditional TSPs.

BEREC notes that the NRA can regulate OTT-0 within the framework of extant regulations (though their impact may be considered when analyzing market situations qua regulated entities). It also highlights the uncertainty over the definition of ‘electronic communication services’ and its applicability to various new types of OTTs and therefore recommends amendment of the definition in the overall review of the telecommunications framework by the EU. BEREC has broadly accepted the proposed expansion in the definition of the term ECS to include all interpersonal voice communications.

- Indonesia - define OTT Services as the provision of applications and/or content services through the internet. Further, the draft regulations define “application service” to include short messages, voice call, video call, electronic mail, and online conversation (chatting/instant messaging), financial transactions service, etc. Content services, on the other hand, is the provision of digital

information in form of text, sound, image, animation, music, video, movie, game, or combination of part and/or all that includes a streaming form or download form by using internet access service through telecommunication network operation.

- United Kingdom - Public consultation on the review of the regulatory framework for electronic communications submitted that the Commission’s definition of ECS should remain flexible, continuing to allow regulators to determine, on a case-by-case basis, whether (or not) a specific service consists wholly or mainly in the conveyance of signals on electronic communications networks.
- Commonwealth Telecommunication Organisation - As online services which can potentially substitute traditional telecommunications services such as voice telephony and messaging(SMS) services. OTT services are grouped into three broad groups namely:
  - Voice over IP (VoIP) for voice calling and video chatting services;
  - Instant Messaging services- chat application; and
  - Video and Audio Streaming services

**Scope of Consultation** - In the background of DoT’s reference letter dated March 3, 2016 and the issues already covered in the consultations that have preceded this one, “*the Authority has chosen in this consultation to focus only on regulatory issues and economic concerns pertaining to such OTT services as can be regarded the same or similar to the services provided by TSPs.*”<sup>4</sup>

Focusing only on regulatory issues and economic concerns pertaining to such OTT services as can be regarded as the same or similar to the services provided by TSPs sets a wrong precedent by TRAI. Creating an artificial distinction by fragmenting the

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<sup>4</sup> "Consultation Paper on Regulatory Framework for Over-The-Top (OTT ...." 12 Nov. 2018, <https://www.trai.gov.in/consultation-paper->

[regulatory-framework-over-top-ott-communication-services](#). Accessed 10 Dec. 2018.

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Internet into two categories - one that requires a license and a second that doesn't require any regulations "within the scope of consultation" is a stick-and-carrot-approach that would hamper digital innovation.

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# CRITICAL AREAS OF RESPONSE

## I) IS TRAI THE RIGHT NODAL AUTHORITY TO REGULATE OTTS?

*“What cannot be done directly, cannot be done indirectly.”*

- The Doctrine of Colorable Legislation, Supreme Court of India

The Indian Telegraph Act, 1885<sup>5</sup> grants the government the exclusive privilege of “establishing, maintaining and working” telegraphs in the country. The definition of ‘telegraph’ under the Act means any appliance, instrument, material or apparatus used or capable of use for transmission or reception of signs, signals, writing, images and sounds or intelligence of any nature by wire, visual or other electromagnetic emissions, radio waves or Hertzian waves, galvanic, electric or magnetic means. Over the years, this definition has extended to cover all kinds of modern technologies, and the regulators are continually attempting to broaden the scope of its authority to try and bring more business models under the Act.

Given how the Indian Telegraph Act is currently structured, it is hard to determine how **OTTs that does not “establish, maintain and work” a “telegraph”** could fall within the regulatory purview of the department of telecommunications.

**Since TRAI is a telecom regulator and OTT services fall in the domain of the internet**, we believe that TRAI does not have the jurisdiction to formulate regulations for the web or to impose them.

The consultation paper also raises a point on privacy, security, and ownership of data in the telecom sector. The Telecom Regulatory Authority of India, in the

consultation paper, has made specific reference to OTT players and suggested that the privacy recommendations that apply to licensed telecom

service providers should also be extended to over-the-top players. While it is essential for an entity to adhere to privacy principles, **TRAI does not have the required legal competence** to extend its regulatory authority to the users of the telecom network.

Today there are already adequate laws controlling their operations under the IT Act, not to mention the conventional IPC, CrPC, etc. As the consultation paper itself points out, **TRAI has no jurisdiction over non-communication service providing Internet Platforms and Applications.**

The consultation paper also raises a point on national security and implies that spreading of fake news is done through these OTT platforms. While this is a topic which should be taken up (either by MeitY or Ministry of Information and Broadcasting), it is not within the supervisory authority of the telecom regulator to compel them to comply.

Content vs. Carriage Argument - **TRAI can only regulate the carriage.** One possible construct to look is content vs. carriage. All content offerings should be subject to a specific, consistent framework and similarly all carriage players to one.

With regards to data privacy, protection, security laws and, cross-border data transfer, we believe that the current framing is far too wide. It must be noted that data privacy, protection and, cross-border data transfer are wide areas of regulation. The Ministry of Electronics and Information Technology is already working on a data protection framework which would cover these issues.

Issues such as data privacy, protection, security laws and, cross-border data transfer would render themselves to causing confusion to stakeholders along with jurisdictional issues within government.

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<sup>5</sup> <http://www.ijlt.in/pdf/files/Indian-Telegraph-Act-1885.pdf>

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## II) ADDED COST TO BUSINESS HAMPERS DIGITAL INNOVATION AND BARRIER TO ENTRY FOR NEW-AGE BUSINESSES

TSPs collect charges from customers for the consumption of data either on account of usage of OTT services or on account of voice services offered by them.

The ecosystem that is being built in the country should assign the highest priority to enable such innovation and to eliminate any impediments and roadblocks to such change. Given the Indian context, much of this innovation will come from small/new companies driven by young entrepreneurs with ideas, knowledge, energy, and vision but limited means. This category requires a supportive environment. **There should be no roadblocks to the rapid adoption of ICT-enabled and/or innovative models** that emerge from this high-energy ecosystem, on which the hopes of a digital revolution in the country rest.

Any stifling regulations applicable to Internet Platforms and Services may:

- Create significant difficulty for business
- Severely hamper the growth and success of the start-up and SME companies
- Limit the scope and potential of the ecosystem that needs to rapidly develop and adopt Innovative ICT technologies, product and services to meet India's needs and the lofty vision of Digital India

Disruptive technologies have made regulations obsolete and that the level-playing field argument is inapplicable because telecom companies had acquired exclusive rights on the spectrum, numbering plans and interconnection by paying the license fee, but OTTs had no such rights. So in a way, TSPs have been on the advantageous side.

Increasing the regulatory burden of OTTs will hamper innovation and growth. A regulatory framework that requires OTTs to be "licensed" in the jurisdiction in which they operate will fragment the Internet along national boundaries and negatively impact the startup economy currently booming in India. If an Indian startup providing OTT services is required to take a license in other jurisdictions, it will not be able to

compete with larger companies having the legal/regulatory resources to do so. Such a framework would undo the years of innovation that has happened on the Internet and fragment it irreversibly.

Further, as discussed above, the distinction between communication OTTs and non-communication OTTs is artificial and flawed, since most applications cannot be compartmentalized in these two categories. For example, most gaming, health, and e-commerce applications provide integrated communication channels. Creating such an artificial distinction would fragment the Internet into two categories - one that requires a license and a second that doesn't require any regulations. The big question would be how the millions of applications on the internet are regulated selectively. This arbitrage in regulatory obligations will give a reason to circumvent and fragment the internet across types of services. It will also stifle the development of OTTs that provide integrated service offerings driven by consumer demand.

There are more relevant factors like ubiquity and adoption, consumer welfare, addressable markets, levels of competition, maturity of industry, lifecycle of products, impact on economy (specially MSME and startups), level of innovation, nature of the underlying technology and other technical considerations such as whether service connects to the public telephone network, and switching costs, amongst other factors.

### III) OTT SERVICES NOT SUBSTITUTABLE TO TSP SERVICES

The Indian Telegraph Act, 1885 grants the government, the exclusive privilege of “establishing, maintaining and working” telegraphs in the country. The definition of ‘*telegraph*’ under the Act means any appliance, instrument, material or apparatus used or capable of use for transmission or reception of signs, signals, writing, images and sounds or intelligence of any nature by wire, visual or other electromagnetic emissions, radio waves or Hertzian waves, galvanic, electric or magnetic means. Over the years, this definition has extended to cover all kinds of modern technologies, and the regulators are continually attempting to broaden the scope of its authority to try and bring more business models under the Act.

Communication data through OTTs is delivered in the form of data packets based on best effort delivery model with no dedicated end to end channel being established for the duration of the communication.

This stands in stark contrast to traditional voice services offered by TSPs, which function with atop circuit-switched PSTN architectures, where dedicated channels of communications are established between devices for the duration of the communication. Digital Platforms and Services deliver Instant messaging data over IP networks as opposed to traditional SMS services, which utilize dedicated infrastructures involving short message centers Short message gateways and SMS gateways. At the same time, most TSPs already provide online services in addition to network access. Therefore, while TSPs can operate in both the network and application layers, Internet companies are restricted to only the application layer. It would be detrimental to have licensing for communication applications and Internet platforms.

The government regulates entities that operate the infrastructure of communication—those who “establish, maintain and work” the “telegraphs.” **It does not regulate the rest of service providers**

<sup>6</sup> [https://medium.com/@james\\_aka\\_yale/the-4-layer-internet-model-network-engineers-need-to-know-e78432614a4f](https://medium.com/@james_aka_yale/the-4-layer-internet-model-network-engineers-need-to-know-e78432614a4f)

<sup>7</sup>

[https://www.trai.gov.in/sites/default/files/Recommendations\\_24\\_10\\_2017\\_0.pdf](https://www.trai.gov.in/sites/default/files/Recommendations_24_10_2017_0.pdf)

who merely use the “established” telecom infrastructure to communicate. This is the reason why internet communication can be procured by the

consumers, while the service providers who connect our phones have to first obtain a license from the government.

To reiterate, OTT provider refers to a player which offers information and communication technology (ICT) services, but **do not operate a network of their own nor do they lease network capacity from a network operator**. Instead, OTT providers rely on the global internet and access network speeds.

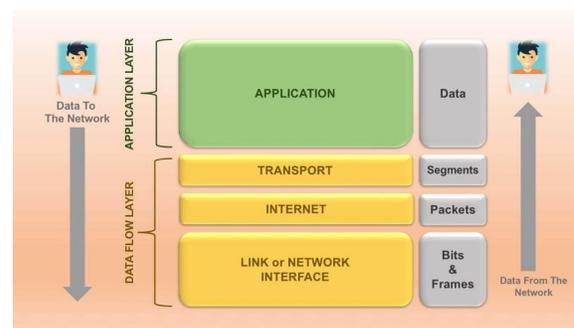


Figure 2: Data-flow layer vs Application layer<sup>6</sup>

In the Internet Telephony Recommendations<sup>7</sup>, we observed that the **separation of network layers (the underlying infrastructure for telecom services) and the service layers (the services provided via the network, OTT services for instance)** is imperative. We assert that is the natural step forward given the changes in technology in the domain of telecom. Thus the functions of TSPs as well will need to be treated separately from the underlying infrastructure<sup>8</sup>

In the OSI's seven-layer model, Layer 3 works atop Layer 2, which works atop Layer 1. Bits are transferred over a variety of medium, cables, ports, etc. Frames are used to define the data between two nodes on a data link, and when there are more than two nodes, the network helps address route and control traffic.<sup>9</sup>

<sup>8</sup> <https://www.wideband.net.au/blog/difference-layer-3-layer-2-networks/>

<sup>9</sup> "The difference between Layer 3 and Layer 2 networks - Wideband." 20 Oct. 2018, <https://www.wideband.net.au/blog/difference-layer-3-layer-2-networks/>. Accessed 2 Dec. 2018.

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The same change needs to be seen in the regulations for such network and service layers as well.

Subjecting new age services to traditional regulatory regimes will only have the impact of creating huge entry barriers, as opposed to supporting innovation and development. Instead of taking such a backward step, regulators and TSPs alike need to look forward and adapt their regulations and revenue streams accordingly.

**Where Layer 3 works with IP addresses, Layer 2 works with MAC addresses.** For example, a house address is always the same, like a MAC address, while an IP address can change, like the addressee at the house.

Much like the difference between Layer 3 and Layer 2 in the OSI, the main difference between a Layer 2 switch and a Layer 3 switch is the routing function. A Layer 2 switch only works with MAC addresses and doesn't interact with any higher layer addresses, such as an IP. A Layer 3 switch, on the other hand, can also do static routing and dynamic routing, which includes IP and virtual local area network (VLAN) communications. This dual-layer functionality is why a Layer 3 switch is also known as a multilayer switch.

We see that technology nowadays that leads to innovation, development, and progress, such as AI, IoT or Big Data, is dependent on the underlying infrastructure, in the form of data services. **We believe the TSPs by making these changes should see this as an opportunity rather than a threat.**

Further the belief that it is Internet platforms and apps that ride over the top of telecom networks is misplaced. **It is consumers who use telecom networks to access apps and internet platforms.** These consumers have contracts with telecom companies, and they are using bandwidth that they have paid for at a price that generates profit for telecom companies.

In theory, economic actors "compete" to sell products or services that may offer similar value, and could serve as substitutes for one another. However, users are migrating in their choice of technologies rather

than in the use of products or services; telecommunications services and services based on internet protocols are so different that they could barely be considered competing "substitutes." Consider SMS vs. internet messaging apps like Viber, Signal, WhatsApp, or Snapchat: their business models are different (consumption vs. data exploitation); the technology they use is different; the barrier of entry to the market is different (and therefore the offering of alternatives is different); and their degree of availability to the public is different (there are messaging platforms that are open for everyone to use while others are closed or exclusive. Not having access to one of them does not imply endangering the right to communication, while not having access to SMS, for instance, leaves the user with very few or no available substitutes)<sup>10</sup>.

The FCC noted that "VoIP services convert your voice into a digital signal that travels over the Internet. If you are calling a regular phone number, the signal is converted to a regular telephone signal before it reaches the destination. VoIP can allow you to make a call directly from a computer, a special VoIP phone, or a traditional phone connected to a special adapter. In addition, wireless "hotspots" allow you to connect to the Internet and may enable you to use VoIP service wirelessly." Rezac & Voznak (2010) further notes that "The difference between VoIP calls and PSTN calls is the way the subscriber's information (i.e., the voice communication) is transmitted. In PSTN calls, a dedicated connection is set up end-to-end so that the calling and called parties to have full use of that circuit at all times until the call is completed and the circuit is torn down. In VoIP calls, the calling and called parties' voice communications "packetize," that is they are broken up into small pieces or packets, which are transmitted across the Internet and finally reassembled at the destination point." When the voice packets traverse the Internet they mix with many other packets of information traversing that same circuit, so the circuit is not dedicated to only that one voice call, but rather is acting as a highway transporting a large number of packets from their origination points to their destination points"<sup>11</sup>.

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<sup>10</sup> "Internet vs. telecommunication services: differences that matter for ...." 22 May. 2017, <https://www.accessnow.org/ott-vs-telecom-services/>. Accessed 2 Dec. 2018.

<sup>11</sup> "Voice Over Internet Protocol - Federal Communications Commission." <https://www.fcc.gov/general/voice-over-internet-protocol-voip>. Accessed 2 Dec. 2018.

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## IV) THE NET NEUTRALITY DEBATE AND INTERNET FREEDOM

Net neutrality aims to preserve the **internet's open architecture, maintaining the user's power of choice, the incentives to innovation by application providers, free competition and freedom of speech.**

Net Neutrality is a universal concept where TSPs, as access providers, have no power to select services, applications, content that a consumer accesses. The consumers retain their Right to choose and make an informed decision on how to use their Internet access offered by the TSPs.

OTTs are currently regulated as per the provisions of the Information Technology Act and tax laws, among others. **Regulators should be careful that proposed laws do not end up affecting the Open Internet.** Excessive regulation would adversely affect a medium that has helped citizens to communicate securely. Steps like licensing would change many open source projects that help people to communicate and exchange ideas securely

It is therefore vital to begin engaging with Internet issues employing a **rights-based framework**, which include not only negative rights like freedom of expression and privacy, but also positive rights like universal access, and a certain degree of basic 'neutrality' and egalitarianism of the Internet.

If we look at **Brazil's Marco Civil framework**<sup>12</sup>, however faulty, is an excellent example of a rights-based framework for regulation of our communicative space (the Internet). It will be useful for TRAI to begin an exercise towards evolving such a framework, which should be presented as something that should underpin the government's proposed Communication Convergence Bill.

Answering the question on allowing differential pricing for data access and app-based communication services, we believe that introducing any proposal to implement **differential pricing would be against the**

**spirit of net neutrality and not in the interest of consumers.**

It will be inappropriate to give deferential treatment to OTT communication services and other kinds of data access. This violates the net neutrality principle. In any case, with new innovative practices being employed, it is difficult to define what is an OTT communication service and what not.

The Dialogue strongly recommends that from a legislation point of view, there should not be any preference for one network technology over another, since it may lead to market distortions<sup>13</sup>.

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<sup>12</sup> <http://pensando.mj.gov.br/marcocivil/civil-rights-framework-for-the-internet-in-brazil/>

<sup>13</sup> <http://mobileopportunity.blogspot.com/2011/06/how-to-shape-mobile-data-market.html>

## V) TRAI CONSULTATION AND THE FREE FLOW OF DATA

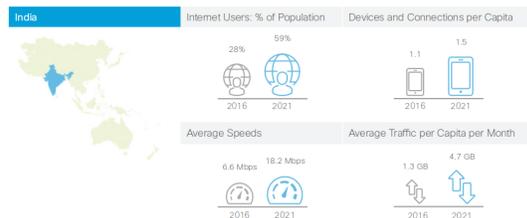


Figure 3: State of Internet in India 2021  
Source: TRAI

One aspect of digital communications where TRAI's consultation paper might make a significant impact is the free flow of data. Let us shed some perspective on the same. The consultation paper itself specifies that internet and amount of data India consumes have grown over the past few years. The total wireless data usage in India has already increased from 4.6 exabytes during 2016 to 20 exabytes in 2017<sup>14</sup>. TRAI's, through their research, acknowledge that **the free flow of data has been on the rise**. A crucial part of this unprecedented rise is that the internet has mostly been unregulated or has been subject to light touch regulation. As a result, **digital innovation has blossomed in India**. In fact, due to the insatiable demand of the Indian consumer, the average price of a GB has fallen from the average of Rs 75.57 per GB in 2016 to Rs 12.06 per GB in 2018<sup>15</sup>.

Let us view this proposed intervention in OTT services through the eyes of a consumer. Consider how the regulation of Whatsapp voice and video calls, one of the multiple OTT services that emulate the facilities offered by TSPs. In 2015, Whatsapp calls were a new addition to Indian life, in 2018, they are a daily reality. **Indians rely on the free connectivity offered by Whatsapp calls to conduct their communication on a daily basis**. We are the largest consumers of the service globally. According to a statement by

WhatsApp in 2017, "India is the top country for video calling minutes with a total of over 50 million video calling minutes per day"<sup>16</sup>. TRAI's attempt at trying to regulate services such as these through making changes to the OTT scenario will be an inconvenience across the board.

Not only will consumers be impacted by TRAI's move into OTT services, but it will also have an impact on the way businesses communicate with and within each other. **Increased costs due to regulation will mean barriers to access for businesses and individuals alike and will go against the free and instant connectivity that communication platforms stand for.**

Besides, regulating the free flow of data could also act as a **barrier to the services** that such platforms might seek to offer in the future. For instance, WhatsApp has recently been deliberating on how to provide a payments feature to facilitate digital transactions for Indian users<sup>17</sup>. However, such regulation would only add to the complexities that already exist in making this a possibility. This lack of R&D paints a darker picture for the future of the citizen and the consumer.

<sup>14</sup> "Download - Telecom Regulatory Authority of India." 4 May. 2018, <https://www.trai.gov.in/sites/default/files/YPIRReport04052018.pdf>. Accessed 4 Dec. 2018.

<sup>15</sup> "Telecom Regulatory Authority of India Consultation Paper on ... - Trai." 12 Nov. 2018, <https://www.trai.gov.in/sites/default/files/CPOTT12112018.pdf>. Accessed 4 Dec. 2018.

<sup>16</sup> "Indians spend 50 million minutes every day chatting on WhatsApp ...." 8 May. 2017,

<https://www.hindustantimes.com/tech/india-with-200-million-users-leads-whatsapp-video-calling-in-terms-of-total-minutes-per-day/story-Bo7XVBdK50Co3vsh4bsB2N.html>. Accessed 4 Dec. 2018.

<sup>17</sup> "WhatsApp Chief Writes To RBI For Approval Of WhatsApp Pay - Inc42." 3 Dec. 2018, <https://inc42.com/buzz/whatsapp-chief-writes-to-rbi-for-approval-of-whatsapp-pay/>. Accessed 4 Dec. 2018.

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## VI) REGULATIONS WILL NEGATIVELY IMPACT INDIA'S ECONOMY

The year 2015-16 saw a 17 % increase in the total internet traffic in India that led to an increase of Rs 7 lakh crore in Gross Domestic Product (GDP), of which at least Rs 1.4 lakh crore came from internet-based app services.<sup>18</sup> This puts the Internet's contribution to the country's GDP at about 5.6 % in 2015-16 and is estimated to grow to nearly 16 % broadband penetration 2020, of which internet-based apps will contribute about half (about Rs 18 lakh crore).<sup>19</sup>

Let's take a look at the case of China and the internet's impact on its growth and productivity. China's Internet has been consumer-driven rather than enterprise-driven. Depending on the speed and extent of industry adoption, the Internet could add 0.3 to 1.0 percentage points to China's GDP growth rate from 2013 to 2025. This could fuel some 7 to 22 % of the incremental GDP growth expected through 2025—and by that point, it could translate into RMB 4 trillion to 14 trillion in annual GDP.

Too often policies and regulations for the internet are designed and implemented without any real appreciation for their short or long-term impact. Often, this arises from a misunderstanding of the sector as a whole or from a misunderstanding of the particular platform or service model being targeted. The internet is not measured officially through industrial classification codes and the unofficial methods that have been developed by researchers are almost certainly too conservative. The classification codes that do exist poorly capture the full range of internet goods and services.<sup>20</sup>

The Internet can enable GDP growth that is based on productivity, innovation, and consumption. It also intensifies competition, allowing the most efficient enterprises to win out more quickly, and creates information transparency that improves investment decisions so that capital can be better allocated. It can spur skill upgrades within the workforce and create consumer surplus by lowering prices, making information more widely available, and enabling a multitude of new conveniences. The economy's shift toward the Internet will entail some risks and disruptions, but it can ultimately support India's goal of creating a more sustainable model for economic growth<sup>21</sup>.

At the same time, it must be iterated that internet companies are already regulated under the IT Act, where Internet content and services companies are subject to all extant laws of the land and follow them scrupulously. Digital Platforms and Services are governed by same set of laws that govern MVAS services. Mobile Value-Added Services (MVAS) are services which are similar to Internet services and platforms but they are offered by arrangements between the Access Provider and the MVAS provider, which was established by TRAI in one of its consultations.

A study by World Bank concludes that a 10% increase in fixed broadband penetration would increase GDP growth by 1.21% in developed economies and 1.38% in developing ones<sup>22</sup>. However, while the coefficient was significant at the 1 % level for developed economies the significance was 10% for developing economies.

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<sup>18</sup> "Internet to Contribute Nearly 16 % to India's GDP by 2020: Study ...." 17 Jul. 2017, <https://gadgets.ndtv.com/internet/news/internet-contribution-apps-services-india-gdp-study-1725728>. Accessed 2 Dec. 2018.

<sup>19</sup> <https://www.firstpost.com/tech/news-analysis/internets-contribution-to-indias-gdp-may-grow-to-nearly-16-%-by-2020-study-3836291.html>

<sup>20</sup> "Refreshing Our Understanding of the Internet Economy - Internet ...." <https://internetassociation.org/publications/refreshing-understanding-internet-economy-ia-report/>. Accessed 2 Dec. 2018.

<sup>21</sup> "China's digital transformation: The Internet's impact on productivity and ...." <https://www.mckinsey.com/~media/McKinsey/Industries/High%20Tech/Our%20Insights/Chinas%20digital%20transformation/MGI%20China%20digital%20Executive%20summary.ashx>. Accessed 2 Dec. 2018.

<sup>22</sup> <http://pubdocs.worldbank.org/en/391452529895999/WDR16-BP-Exploring-the-Relationship-between-Broadband-and-Economic-Growth-Minges.pdf>

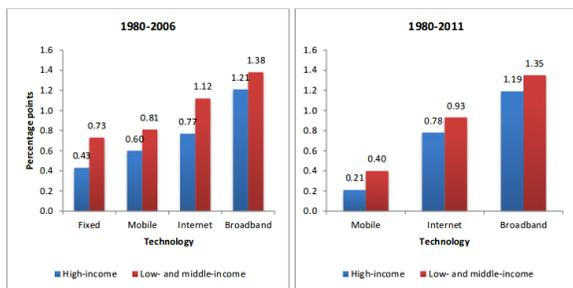


Figure 4: GDP growth impact from 10 percentage point increase in different ICTs, by country economic development category<sup>23</sup>

## VII) 5G WOULD SIGNIFICANTLY REDUCE THE LOAD ON TSPS TO “CARRY” OTT SERVICES

Billions of increasingly smart and connected devices, data-rich personalized services, and cloud applications are driving the need for smarter and more powerful networks. 5G will provide new applications and services both for developed and developing countries. However, some of the 5G applications will be much more important for developing countries including smart transportation systems, e-health, education, smart grid, water management, and agriculture.

The transition to 5G brings communications and computing together and is a fundamental shift for the industry. The industry is looking to 5G to provide higher data rates (1-20 Gbit/s), lower latency and capacity needed to enable the IoT, new service models, and immersive user experiences. This will require immense processing and communications power provided by sophisticated silicon solutions. Advanced technology is necessary to power the seamless end-to-end interconnectivity of 5G required to enable a smart and connected world. This includes a unique combination of computing, networking, and wireless communications expertise to develop 5G solutions that integrate intelligence across the entire network, from device to data center.

There is one very significant difference between 5G and previous generations of wireless standards 4G, 3G and 2G were wireless innovations focused largely on improving the speed and efficiency of a connection between point A (a cellular network antenna) and point B (your cell phone or other devices). 5G is also about faster and more efficient wireless connectivity, but it is also about computing capability. 5G networks must be smarter, faster and more efficient to support the forthcoming billions of connected devices, data-rich personalized services, and cloud applications that will enable new experiences in our daily lives (e.g., telemedicine, self-driving cars).

Optimized network speed from the adoption of 5G will result in even higher user expectations when it comes to low latency and always-on connectivity. When 5G powers millions of devices at home, around the community and in workspaces, decisions will need to be made in fractions of a second to as to where to send a device's traffic to maintain uptime and provide a superior user experience.

The emergence of 5G will transform the way enterprises manage their networks and meeting these new challenges will require automation as a critical component of any network management strategy. Real-time monitoring of network and data centers will become imperative. The sheer number of computations and connections will demand automated traffic management that factors in conditions beyond geography, such as real-time data center performance and traffic volume/speed. These considerations will be key to optimizing application performance<sup>24</sup>.



Figure 5: Evolution of internet - 2G, 3G, 4G and 5G<sup>25</sup>

A report released by the International Telecommunication Union (ITU) praised the Saudi Kingdom for adopting the latest technology, stating that the project was launched soon after Saudi Arabia's national ICT regulator, Communications and Information Technology Commission (CITC), issued licenses for testing the 5G mobile network using 100 MHz channels in the bandwidth of 3.6Ghz–3.8GHz<sup>26</sup>.

Mobile players are testing spectrum from 3.5 gigahertz to 80 gigahertz for 5G. Most, however, are focusing on acquiring 3.5 gigahertz bands over the short-to-medium term, followed by 26 gigahertz and 28

-ARABIA/AI-Khobar-becomes-first-city-in-MENA-to-get-5G-network

<sup>26</sup> "AI-Khobar becomes first city in MENA to get 5G network - Saudi Gazette." 26 May. 2018, <http://saudigazette.com.sa/article/535659/SAUDI-ARABIA/AI-Khobar-becomes-first-city-in-MENA-to-get-5G-network>. Accessed 2 Dec. 2018.

<sup>24</sup> "Why 5G is bringing edge computing and automation ... - Network World." 14 Feb. 2018, <https://www.networkworld.com/article/3255426/an-wan/why-5g-is-bringing-edge-computing-and-automation-front-and-center.html>. Accessed 2 Dec. 2018.

<sup>25</sup> <http://saudigazette.com.sa/article/535659/SAUDI>

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gigahertz bands (these bands will be the first up for auction in most of the world). The new spectrum will give operators greater bandwidth and a consequential increase in air capacity. Consider the European Union, which is now releasing up to 400 megahertz bandwidth on 3.5 gigahertz. Operators that do not undertake acquisitions and continue to rely on legacy bands could soon run into capacity issues<sup>27</sup>.

The focus of 5G would not only be faster and more efficient wireless connectivity but also how it would drastically reduce the load on control and management of resources in 5G technologies (context awareness, content awareness, information-centric networking, etc)

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<sup>27</sup> "The road to 5G: The inevitable growth of infrastructure cost | McKinsey."  
<https://www.mckinsey.com/industries/telecommu>

<https://www.mckinsey.com/industries/telecommunications/our-insights/the-road-to-5g-the-inevitable-growth-of-infrastructure-cost>.  
Accessed 2 Dec. 2018.

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## VIII) TELECOM SECTOR IS CHARACTERISED BY CONSTANT AND FAST-MOVING CHANGE

Communication is a basic need of life and communication companies have always been classified as institutions that provide socio-economic services. It is therefore essential that the services provided must at all times reflect the state of the wellbeing of that community or its people.

Telecommunications and indeed communication services, in general, has transited from first generation cellular networks to third and more recently fourth-generation networks (which largely ride on internet protocol) in various parts of the world.

The access to 3G and 4G networks which offer mobile broadband and high-speed IP data networks has further encouraged the uptake and growth of new modes of communication such as over-the-top (OTT) services which in turn enables the provision of services such as live streaming, and voice over internet protocol (VoIP)<sup>28</sup>.

These OTT services are provided through the Internet Protocol Telephony which is a general term for the technologies that use Internet Protocols packet-switched connections to exchange voice, fax and other forms of information that have traditionally been carried over the dedicated circuit-switched connections of the public switched telephone network (PSTN).

"VoIP is a technology by which oral communications can be transferred from circuit-switched networks to or over Internet Protocol networks and vice versa. VoIP transforms standard oral telephone signals into compressed data packets that are sent over the Internet Protocol. VoIP can be used with either a telephone (mobile or landline) or a PC as the user terminal thereby providing different modes of operation: PC to PC, PC to telephone, telephone to PC

and telephone to telephone or mobile-to-mobile, all via the internet"<sup>29</sup>.

Telecom technologies have advanced overtime especially radio access. It has evolved from GSM and CDMA technology to third generation technologies that use the WCDMA, TD-SCDMA, CDMA2000, down to the fourth generation technologies that use TD-LTE, FD-LTE, LTE-A. The plan to deploy the fifth generation is on its way and is slated to be rolled out in 2020. These advancements in technology have provided end user data rates that are relatively satisfactory, which were not in existence a decade ago. The improved data rate can be associated with the adoption of OTT services like video calls and multimedia services that are dependent on data services and thus consume a lot of bandwidth. The advancement in mobile phone technology is another factor that has driven the wide adoption of OTT services. Evolution of mobile devices from feature-phone to technologically advanced smartphone has allowed data streaming, which is one of the most prominent enablers for any OTT<sup>30</sup>.

End users are the ultimate beneficiaries of a digital single market and their interests should remain at the heart of the regulatory authority. The effectiveness of markets and sufficiency of networks should, therefore, be measured against the extent to which they respond to end users' (including business users') needs.

Example - In the UK, competition between cable operator Virgin Media and the incumbent British Telecom (BT) has helped drive NGA investment. Virgin Media has used DOCSIS 3.0 technology to offer faster broadband across its footprint, and in turn, BT has progressively rolled out and upgraded its superfast network. During the first half of 2015, Virgin Media announced a £3 billion investment to extend its cable network to cover two-thirds of UK premises and its own ultrafast programme. At the same time, BT announced that it would deliver ultrafast speeds of up to 500Mbit/s to most of the UK within a decade. As Virgin Media extends its network further and offers faster speeds, BT is likely to come under greater competitive pressure

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<sup>28</sup> "AN OVERVIEW OF PROVISION OF OVER THE TOP [OTT] SERVICES."

<https://www.ncc.gov.ng/docman-main/industry-statistics/research-reports/713-overview-of-provision-of-over-the-top-ott-services/file>.

Accessed 2 Dec. 2018.

<sup>29</sup> "privacy in electronic communications: the regulation of voip in ... - SSRN."

[http://papers.ssrn.com/sol3/Delivery.cfm/SSRN\\_ID1466153\\_code653673.pdf?abstractid=1466153&mirid=1](http://papers.ssrn.com/sol3/Delivery.cfm/SSRN_ID1466153_code653673.pdf?abstractid=1466153&mirid=1). Accessed 2 Dec. 2018.

<sup>30</sup> "About 3GPP." <http://www.3gpp.org/about-3gpp>. Accessed 2 Dec. 2018.

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to offer ultrafast broadband. Responding to claims that “regulatory policies such as forbearance on access to NGA networks may stimulate deployment,” WIK found no proof that this was the case, though we can observe that countries that have placed more emphasis on passive remedies have experienced greater levels of FTTH rollout<sup>31</sup>.

Some of the most important ways suggested by a large cross section of industry and experts has been a) lower spectrum cost, b) improved design of auctions, c) easier roll out norms and d) clearer rights of way for TSPs and e) government support for rural expansion of TSPs<sup>2</sup>. Most reports suggest that the spectrum cost in India is one of the highest in the world<sup>3</sup>. The increased demand for, and limited supply of spectrum as controlled by the government to keep spectrum prices high under the guise of maximizing public good is a narrow and short-term policy under the assumption that it would be maximizing societal welfare. Improved investment in networks is primarily dependent on the Government’s outlook towards the TSPs rather than on the relationship between TSPs and the Internet content and services companies.

The growth of OTT apps expands, not reduces, the avenues for greater revenues for TSPs. With Digital Platforms and Services offering progressively richer services, incentives for investment in networks will increase further. This will attract and make available greater funds to enable deployment of newer technologies and investment in network capacity and quality.

It is also important to note that Digital Platforms and Services apps already participate in infusing investment in the networks, facilities, and equipment of the internet. A study by Analysis Mason in 2014 found such investment to be significant in the US context – between approximately USD 28 billion and USD 36 billion annually from 2011-2013, with a blended average in the region of USD33 billion per annum. A recent study conducted by WIK-BIF found that that “rich interaction applications” like created a consumer surplus of US\$98 billion (INR 6.3 lakh crores) in India. This is equivalent to 4.3% of India’s GDP of US\$2264 billion (INR 147 lakh crores) in 2016<sup>6</sup>. Another study, by ICRIER in 2017, determined that during the period

2015-16, Digital Platforms and Services contributed a minimum of USD 20.4 billion (Rs. 1357.6 billion) to India’s GDP. The study forecasts that by 2020, Digital Platforms and Services could contribute a minimum of USD 270.9 billion (Rs.18275.9 billion) to India’s GDP.

Another significant way in which Digital Platforms And Services providers drive investment in this sector is by building physical facilities such as data centres, fibre networks, servers and routers. There is a wide array of advanced and expensive physical equipment that underpins the operation of the internet, which requires significant investment, and much of it is carried out by Digital Platforms and Services players and their network service providers.

The above example proves how a market regulatory approach provides a competitive spirit of business which, in turn, promotes innovation and better delivery of services to the consumers.

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<sup>31</sup> "Virgin Media - Ofcom."  
[https://www.ofcom.org.uk/data/assets/pdf\\_file/](https://www.ofcom.org.uk/data/assets/pdf_file/)

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## **IX) REGULATIONS WILL AFFECT INTERNET PENETRATION AND GOVERNMENT'S 'DIGITAL INDIA' INITIATIVE**

Adoption of OTT messaging is very closely linked to smartphone and mobile broadband penetration. While in matured markets growth in smartphone and mobile broadband penetration has been a key driver for increased OTT messaging adoption, in many developing markets this penetration itself has been fuelled to an extent by the consumers' desire to use OTT messaging services such as WhatsApp. The major driver being cost, broadband penetration, advanced feature, net neutrality, customers prefer using OTT services for messaging than the traditional SMS and MMS services. OTT messaging service providers have also offered a bouquet of innovative features and services to customers due to fast IP network technologies. Some of these features include voice messages, media sharing, microblogging, Stickers, emoticons etc. TSP messaging services, on the other hand, have practically remained unchanged since their inception.

The regulation of applications such as Voice over Internet Protocol (VoIP) and other IP-enhanced services are often cited as examples of how putting a regulatory structure could hinder the deployment and development of emerging technologies

India is fortunate to have arguably the most powerful IT service delivery industry in the world today. This capability needs to be leveraged maximally to achieve the lofty vision of Digital India. Yet, mere adoption of these technologies is not adequate to meet India's needs, much less achieve its full potential; significant innovation is needed, both in technology and business models. In this context, the rapidly maturing startup innovation product ecosystem (which is the 4th largest in the world today and will be the 2nd largest within 2 years) is a powerful new complement to the established IT-BPM industry and acts as a force multiplier<sup>32</sup>.

The ecosystem that is being built in the country should assign the highest priority to enable such innovation and to eliminate any impediments and roadblocks to such change. Given the Indian context, much of this innovation will come from small/new companies driven by young entrepreneurs with ideas, knowledge, energy, and vision but limited means. This category requires a supportive environment. There should be no roadblocks to the rapid adoption of ICT-enabled and/or innovative models that emerge from this high-energy ecosystem, on which the hopes of a digital revolution in the country rest.

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<sup>32</sup> "Response to TRAI Consultation Paper on Regulatory ... - Nasscom."  
<https://www.nasscom.in/sites/default/files/policy>

[update/NASSCOM\\_Response%20to\\_TRAI\\_Consultation\\_on\\_OTT\\_Apr2015.pdf](#). Accessed 2 Dec. 2018.

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## X) REGULATION WILL CHALLENGE RIGHT TO INTERNET

Internet connectivity is essential for economic, social, cultural, political, and civic participation in the digital age. For the benefits of information and communications technologies to spread equitably and freely, connectivity must occur within a human rights framework

Another concern is the impact proposed measures may have on human rights. In this regard, we are most concerned by proposals that would require companies that offer “OTT” internet applications or services to get a license or register with the government before they can make their services available in a country, mandating that they be deployed in the same highly controlled way that legacy telecommunications access services are deployed. This type of regulation is a poor fit for internet applications or services and would have negative consequences for internet users, potentially impacting free expression and the capacity for innovation. Specifically, requiring individuals or companies to obtain a license in order to provide an internet application or service would interfere with the right to free expression under the current human rights law interpretation of Article 19 of the International Covenant on Civil and Political Rights (ICCPR). A landmark report by the United Nations Special Rapporteur on the Freedom of Expression in 2011 stated this point, indicating that:

*“Furthermore, unlike the broadcasting sector, for which registration or licensing has been necessary to allow States to distribute limited frequencies, such requirements cannot be justified in the case of the Internet, as it can accommodate an unlimited number of points of entry and an essentially unlimited number of users”<sup>33</sup>.*

Some proposals for regulating “OTT” applications or services would also impact Net Neutrality. As the Global Network Neutrality Coalition<sup>34</sup> states, “net

neutrality requires that the Internet is maintained as an open platform, on which network providers treat all content, applications, and services equally, without discrimination”. Mandating an “OTT” license or registration in order to be able to offer internet applications or services directly implicates these core principles. Internet users would no longer have an open platform for access to these applications or services without discriminatory interference at the telecommunications network level. Instead, their choices would be limited to the applications or services licensed or registered with telecommunications authorities.

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<sup>33</sup> "proposals for regulating internet apps and services - Access Now." 21 Aug. 2017, [https://www.accessnow.org/cms/assets/uploads/2017/08/Access\\_Now\\_OTT-position%E2%80%93paper.pdf](https://www.accessnow.org/cms/assets/uploads/2017/08/Access_Now_OTT-position%E2%80%93paper.pdf). Accessed 2 Dec. 2018.

<sup>34</sup> "Open Letter to Mark Zuckerberg: Internet.org vs. Net Neutrality, Privacy ...." 19 May. 2015, <https://edri.org/letter-facebook-internet-org/>. Accessed 2 Dec. 2018.

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## XI) THE PROBLEM OF “REGULATORY IMBALANCE”

OTT services are among the most popular communication services that have created a long-lasting debate in scholarly articles, reports, and policy documentation processes.

A licensing regime might not be the best way to about it, as it would be impractical and diminish the value of the internet to the citizens. Several literature works have discussed the different aspects of OTT services including economic impacts, competitive effects on the telco industry, and as well as their regulatory frameworks with regards to future media regulation that covers both new media and influential elements (i.e., search engines, social networks, and manufacturers).

### **The Problem of Multiplicity Ambiguity -**

Implementation of licensing regulation for OTT communication services in this way would be complicated since there is a multiplicity of OTT players that provide a mix of services or aggregated services, and not just voice calling or messaging. For example, there are online games that have real-time chat or call features, etc. Facebook, also deploys chat and messaging feature as an ancillary entity in its social media sphere. Similarly, Google docs, as an example, is primarily an online text editor but allows users to chat with one another in real time. The multiplicity of functionality offered by such platforms may make it difficult to practically segregate communication from non-communication related OTTs.

Further, as discussed in our response earlier, the distinction between communication OTTs and non-communication OTTs is artificial and flawed, since applications cannot be compartmentalized in these two categories. For example, most gaming, health, and e-commerce applications provide integrated communication channels. Creating such an artificial distinction would fragment the Internet into two categories - one that requires a license and a second that doesn't require any regulations.

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## WAY FORWARD

In this section, we provide alternatives to TRAI's Consultation Paper moving forward. We discuss briefly how the current regulatory system has enabled Internet adoption and growth of Internet platforms and services in India. In 2013, 10% of the Indian population were Internet users', and the number of internet users in rural areas will touch 210 million by the end of 2018. Wireless subscriptions at the end of August 2018 stood at 1,166.90 million. India is also the second largest country regarding internet subscribers with 512.26 million internet subscribers, as of June 2018. The country is now the world's second largest smartphone market and will have almost one billion unique mobile subscribers by 2020<sup>35</sup>.

### 1. DE-REGULATING AND DE-LICENSING TSPS

Rather than attempting to increase the regulatory burden of OTTs by applying telecom regulations to online services, there should be consideration given to **reducing the regulatory burden of TSPs**. Towards this end, TRAI has already started a consultation on Ease of Doing Business, which aims to unshackle and rationalize the statutory obligations of TSPs.

### 2. OTT SERVICES UNDER MEITY OR I&B MINISTRY

As pointed out in "Is TRAI the right Nodal Authority to Regulate OTTs?", There are already adequate laws controlling OTT operations under the IT Act, not to mention the conventional IPC, CrPC, etc. As the consultation paper itself points out, TRAI has no jurisdiction over non-communication service providing Internet Platforms and Applications.

Since TRAI is a telecom regulator and OTT services fall in the domain of the internet, we believe that TRAI does not have the jurisdiction to formulate regulations for the internet or to impose them. Instead, an entity like MeitY or I&B Ministry should take up the issues pertaining to privacy, security, encryption for national security, lawful interception, interoperability as they are more equipped to handle such matters.

### 3. A FUTURISTIC OUTLOOK TO TELEGRAPH ACT

There is a need to **revamp the archaic legislation of Telegraph Act** completely and put in place a forward-looking law that will strengthen the telecom infrastructure, create a generation of satisfied users, make investments in the sector viable and put in place a telecom regime that respects the due process of law and equality. According to this report<sup>36</sup> by Businessline, the Act, after the required amendments, should be christened 'The Telecommunications Management Act, 2000' (the New Act).

### 4. PREPARING FOR AN INTERNET-DRIVEN FUTURE

The internet has proven to be transformative for the industry in recent years. As has been for supply chain management and logistics, communication tech is slowly moving towards an internet driven future. As OTT services increasingly become the norm for the future, we should keep in mind that their widespread adoption has been a by-product of light touch regulation. Such an attitude has been conducive for the development of business and the daily life of the citizen. Moreover, at the end of the day, **it is the interests and demands of the citizen/consumer that drive innovation.**

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<sup>35</sup> "Internet users in India expected to reach 500 million by June: IAMAI." 20 Feb. 2018, [https://economictimes.indiatimes.com/tech/internet/internet-users-in-india-expected-to-reach-500-](https://economictimes.indiatimes.com/tech/internet/internet-users-in-india-expected-to-reach-500-million-by-june-iamai/articleshow/63000198.cms)

[million-by-june-iamai/articleshow/63000198.cms](https://www.thehindubusinessline.com/2000/04/20/stories/042068ma.htm). Accessed 2 Dec. 2018.

<sup>36</sup>

<https://www.thehindubusinessline.com/2000/04/20/stories/042068ma.htm>

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**Regulating these services is bound to interfere with the consumer experience** that OTT services have strived to create thus far. Not only would consumers have to settle for less than optimum levels of services, but it would also adversely impact the ability of big business that may aim to make a contribution to this field in the future.

As OTT services disrupt the playing field, TSPs have a choice to be victims or architects of their future. Playing to their strengths to make the consumer experience better would pave a definitive path for TSPs in the years to come. While voice revenues may have fallen now<sup>37</sup>, the reliability that circuit switching offers is a distinct advantage that VoIP does not have yet. This could be used to focus on the niche that is emergency services and areas with low connectivity. Focusing time and energies on these issues would be an ideal contribution to consumer experience and establish a role for TSPs and circuit switching for the foreseeable future.

## **5. A FRAMEWORK FOR THE FUTURE**

The time is right to instead reflect on a framework that might need to be adapted for the next 10 years. For both TSPs and OTTs, there is a need to ensure that a conducive framework remains as agile and future-proof as possible - a technology-neutral approach, where regulators take a forward-looking view and work with the grain of technological developments rather than seeking to predetermine industry's technological trajectory.

## **6. UNLICENSED FREQUENCY BANDS**

By earmarking unlicensed frequency bands periodically for the operation of low power

devices for public use will have a forward and innovation-friendly outlook. Unlicensed frequency bands have already provided great value in the spread of internet access via wi-fi networks. Further efforts to enable their use for new access technologies would enable innovation and connectivity.

## **7. POSITIVE REGULATORY DISCOURSE BASED ON PUBLIC INTEREST AND HUMAN RIGHTS**

Public policy for the internet (and convergent communications technologies) must consider the public interest in realizing fundamental rights and meet social needs in a manner that is respectful of local socio-cultural contexts. It is crucial to distinguish between a framework of regulating the technology itself and regulating human behavior while using the technology. Regulating the technology itself — without considering its social role and implications — can introduce inequalities. Regulating conduct can be easier, more targeted, and less a danger for technological innovation.

Nevertheless, not every attempt to regulate new technologies or business practices retards innovation or damages free expression. Legal frameworks and regulatory regimes can enable users to realize their digital rights and enjoy the other benefits the internet brings. Examples of a positive regulatory discussion include helping to clarify that companies running user-generated-content services should not be required to police and censor speech outside of legal process, or that rule-based smart spectrum allocation advances innovation and the public interest; or that policies that protect users' data increase trust in new communication services.<sup>38</sup>

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<sup>37</sup>

[https://traf.gov.in/sites/default/files/IDEA\\_13\\_04\\_2017.pdf](https://traf.gov.in/sites/default/files/IDEA_13_04_2017.pdf)

<sup>38</sup> "proposals for regulating internet apps and services - Access Now." 21 Aug. 2017,

[https://www.accessnow.org/cms/assets/uploads/2017/08/Access\\_Now\\_OTT-position%E2%80%93paper.pdf](https://www.accessnow.org/cms/assets/uploads/2017/08/Access_Now_OTT-position%E2%80%93paper.pdf). Accessed 2 Dec. 2018.

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## About The Dialogue

The Dialogue is an emerging public-policy think-tank with a vision to drive a progressive narrative in India's policy discourse. Founded in 2017, we believe in facilitating well-researched policy debates at various levels to help develop a more informed citizenry, on areas around technology, strategic affairs, sustainability and development issues.

Our aim is to enable a more coherent policy discourse in India backed by evidence and layered with the passion to transform India's growth, to help inform on public-policies, analyse the impact of governance and subsequently, develop robust solutions to tackle our challenges and capitalise on our opportunities. To achieve our objectives, we deploy a multi-stakeholder approach and work with Government, academia, civil-society, industry and other important stakeholders.

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