



To,
Shri A. Robert J. Ravi, Advisor (QoS),
Telecom Regulatory Authority of India
advqos@traf.gov.in

July 5, 2016

Dear Sir,

Re: Comments by IFF on the pre-consultation paper on Net Neutrality

The Internet Freedom Foundation (IFF) is an organisation that supports and advocates for a free and open internet. We are a group of volunteers from the **SaveTheInternet.in** movement. We come from all over India, from different backgrounds and fields – technology, law, policy, design, journalism – and are grateful to submit our views in the pre-consultation on Net Neutrality.

More than a million Indians, hundreds of startups, academics and engineers participated in the TRAI consultation last year on a “Regulatory Framework for OTT Services”, which contained issues of Net Neutrality, asking for ensuring that there is no licensing of Internet Telephony (VoIP) and that network service providers are not allowed to prioritize traffic, unless it is to ensure that the network remains operational. We would request that the TRAI take into consideration the submission made by Indian citizens during the OTT consultation while formulating its recommendations/regulation on Net Neutrality.

We specifically request the TRAI to approach any future consultation on net neutrality in the following manner:

- A clear roadmap should be prescribed for network neutrality rulemaking in India. All existing consultations should be closed with specific recommendations. The reasons for conducting future consultations should be flagged and reasoned expressly, so that members of the public and other stakeholders in this issue can meaningfully engage and contribute.
- An attempt should be made for substantial agreement to a framework of technical and economic equality which forms the core of net neutrality. This must be ensured through telecom regulation rather than competition law given that an expert, technical regulator needs to exercise constant oversight over telecom service providers. A clear policy statement on core principles and regulatory outline on initial enforcement for network neutrality in India could provide initial flexibility and aid in future rulemaking.
- Rules which are made to ensure network neutrality may individually fall within the jurisdiction of the TRAI or may be incorporated as express provisions or amendments to the existing language of telecom licensing conditions. In any event an attempt should be made to ensure a strong legal basis for any rulemaking. A conscious effort should be made to bring certainty and stability given that litigation may upset the progress made over the past two years, and add impediments to the commitment to protecting net neutrality made across party lines in Parliament.



- Though security and privacy are key public interest priorities, it appears at present that they also being used by telecom operators (as evidenced through their earlier submissions) to argue for further regulation, licensing and imposing burdens on online services. Regulatory discussions regarding security should be specific and keep regulatory compliance limited to serve that interest alone.
- Similarly the privacy of users is an important interest which needs to be urgently addressed. However the TRAI is not the proper body which can ensure an adjudicatory and regulatory system which is available to individuals on issues concerning privacy due to the limitations of the TRAI Act. Further even the DOT may not be able to provide this even by changes in the license conditions. Given these limitations we request the TRAI to make a recommendation given the importance of user privacy that a comprehensive privacy law is made in India, and carry forward the earlier legislative discussion on this topic which has been pending before the Department of Personnel and Training and the Ministry of Law and Justice.
- We are greatly concerned with question no. 6 which seems to ignore more than a million responses of ordinary Indians against the licensing of online services, including those which enable easy communications via computer to computer VoIP functionality and other features. We would like to restate our earlier submissions that have consistently made the point that radically seeking to further regulate online communications by requiring the licensing of internet applications and web services is not an issue of network neutrality. It is being conflated by Telecom Service Providers who are seeking to extract rents through regulation. Even issues of licensing of online applications and services do need to be considered by the TRAI it should be through an independent consultation. Bundling the licensing of online services within a network neutrality consultation is doctrinally inconsistent and gives the appearance of bartering to safeguard the interests of telecom service providers at the cost of end users and innovators who benefit from the free and open internet.

Thanks and regards,

Policy Team (policy@internetfreedom.in)

Question 1: What should be regarded as the core principles of net neutrality in the Indian context? What are the key issues that are required to be considered so that the principles of net neutrality are ensured?

A discussion on Net Neutrality only makes sense in the context of the global Internet which allows Indians to be able to connect to the world and for global audiences to discover the knowledge, culture, and entrepreneurship of our people. The phrase “in the Indian context” has been abused in the past by TSPs in their attempts to deny to Indians rights enjoyed by Internet users elsewhere. Use of this language in a TRAI consultation paper is unfortunate.

The universal principle of net neutrality is that **Telecom Service Providers must not abuse their position as access providers to influence the competitive balance between different voices on the Internet**, whether those voices are individuals exercising their right to free expression or businesses providing lawful services.

All methods through which TSPs may seek to exert such influence are violations of Net Neutrality and must be prohibited, including but not limited to:

1. discrimination in availability (blocking)
2. discrimination in speed (throttling and prioritization)
3. discrimination in pricing (zero rating and toll gating)

This includes two large categories of technical and pricing discrimination which network neutrality seeks to prevent.

We believe that part of TRAI’s mandate is to enforce these universal principles of Net Neutrality on Indian TSPs, to ensure the openness and vibrancy of the Internet that Indians access.

The following definitions of net neutrality are also broadly consistent with ours, and together point the way to a framework for the enforcement of Net Neutrality by TRAI.

Department of Telecommunications’ committee report on Net Neutrality noted¹:

We don’t need to hardcode definition of Net Neutrality, but define principles, which include: **No blocking, no throttling, no paid prioritization, freedom of access and to receive or use content, no discriminatory practices, reasonable traffic management**

¹ http://www.dot.gov.in/sites/default/files/u68/Net_Neutrality_Committee_report.pdf

and support for innovation, the need for transparency, prescription of QoS, low cost of switching.

According to the global Net Neutrality coalition, comprising of 81 organizations globally,

Network Neutrality is the principle according to which Internet traffic shall be treated equally, without discrimination, restriction or interference regardless of its sender, recipient, type or content, so that Internet users' freedom of choice is not restricted by favouring or disfavouring the transmission of Internet traffic associated with particular content, services, applications, or devices.[[Source](#)]

In addition, Prof. Vishal Misra, Columbia University, defines Net Neutrality as:

Internet is a platform where ISPs provide no competitive advantage to specific apps/services, either through pricing or QoS. #NetNeutrality
[[Source](#)]

Question 2: What are the reasonable traffic management practices that may need to be followed by TSPs while providing Internet access services and in what manner could these be misused? Are there any other current or potential practices in India that may give rise to concerns about net neutrality?

Firstly, we are thankful for Idea Cellular's acknowledgement, in its submission² to the TRAI on the Consultation Paper on Free Data, that:

"All operators have committed to a network where there is no blocking, no throttling and no paid prioritization"

We would request the TRAI to ensure the legal enforcement of this position.

Speed related manipulation or prioritization, when collusive, whether paid or unpaid, lends itself to prioritization of some creators over others, especially businesses over non-business creators. As the authority, in its wisdom, has said in its Prohibition of discriminatory tariffs for Data Services regulations, 2016:

² http://traigov.in/Comments_FreeData/TSP/Idea.pdf

...unlike traditional markets where there are, for the most part, distinct producers and consumers, on the internet, users are also content producers. Social media websites, for example, are built largely based on user content. Regulation will thus have to be cognizant of this fluidity.

The World Bank report on Digital Dividends notes how traffic management measures should not be used to suppress Freedom of Expression and innovation:

“An open and free internet is also a key contributing factor to innovation in the digital economy, making it critical to protect this openness. Care should be taken to ensure that users have the greatest possible access to internet-based content, applications, and services of their choice. **But traffic management measures, while legitimate, should not reduce the enjoyment of fundamental rights and freedoms, particularly freedom of expression**” ... “In whatever form a country would wish to use the internet for development purposes, its public policies should ensure that **technical management of internet traffic is not used to suppress a tool of innovation.**”

On the Internet, every millisecond matters: websites in the past have shown an increase in performance after shaving milliseconds off their loading time. Traffic management may be misused as follows:

- Network service providers could make some websites faster than others in exchange for money or via partnership. For example: Following a partnership with Google, for the Indian Premier League in 2010, Airtel had provided a fast lane to users accessing YouTube, increasing their speed to 2 Mbps.³
- Network service providers could make some websites slower than others. For example, though Airtel had denied throttling the video service Ogle, users found that⁴ on even an 8mbps Airtel connection, the Ogle video service became very slow.
- Network service providers could make their own services faster than others. For example: Games downloaded from Airtel’s “Games on Demand” service are available at a speed higher than that of other service providers, with download speeds for users not on a 2mbps plan upgraded while downloading games from the Airtel service, no matter which plan they have signed up for.⁵

Reasonable traffic management practices are necessary to ensure reliability and performance of Internet access. However, it is impossible to prescribe a list of practices

³ <https://gigaom.com/2010/03/25/youtube-caught-in-net-neutrality-flap-in-india/>

⁴ <http://www.medianama.com/2014/12/223-airtel-net-neutrality-ogle-throttling/>

⁵ http://www.airtel.in/broadband-vas/broadband-vas/games_on_demand.html

that are safe from misuse – a determined TSP can exploit any permitted practice to violate net neutrality in practice.

Instead, we suggest that TRAI use a similar approach to the FCC and only **allow network management practices that serve a technical need while prohibiting practices that serve a commercial need**. This approach is also being discussed amongst European regulators at BEREC, and was recommended by the DoT committee report on net neutrality⁶:

Reasonableness and transparency requirements imply identifying “acceptable” and “unacceptable” practices of traffic management. It is certain that commercial considerations cannot form the basis for acceptability. Principles such as network limitations, congestion management and legal public policy requirements amongst others can be permissible approaches to acceptable traffic management on the Internet.

To enforce this, **TRAI must institute mechanisms to ensure transparency and investigate and penalize possible violations**; TSPs must be required to publicly disclose all network management settings that discriminate between IP packets, and disclose the technical rationale for each.

Question 3: What should be India's policy and/or regulatory approach in dealing with issues relating to net neutrality? Please comment with justifications.

India, with its proud democratic roots, requires a plural and diverse Internet. As a developing nation with less mature markets, we have an even greater need than developed nations to ensure that network neutrality is mandated by regulation to prevent violations.

We request that the TRAI recommend to the Department of Telecommunications that the core principles of Net Neutrality be made part of licensing conditions for Internet and Telecom Service Providers. We believe this is the most appropriate route for regulatory enforcement of Net Neutrality in India.

Enforcement of Net Neutrality would also be consistent with the following legal and regulatory precedents in India:

⁶ http://www.dot.gov.in/sites/default/files/u68/Net_Neutrality_Committee_report.pdf

A) The open Internet is made accessible via spectrum, a public resource. Spectrum is a national resource, owned by the people of India, and is made available to telecom operators only for the purpose of furthering the general public good.

The Supreme Court of India in the *locus classicus* on telecommunications law, in the case of Ministry of I&B v. Cricket Association of Bengal [[Link](#)] has held that:

*“[a]irwaves being public property, it is the duty of the State to see that airwaves are so utilized as to plurality and diversity of views, opinions and ideas. This is imperative in every democracy where freedom of speech is assured. The free speech right guaranteed to every citizen of this country does not encompass the right to use these airwaves at his choosing. Conceding such a right would be detrimental to the free speech rights of the body of citizens in as much as only a privileged few - powerful economic, commercial and political interests - would come to dominate the media. **By manipulating the news, views and information, by indulging in misinformation and disinformation, to suit their commercial or other interests, they would be harming - and not serving - the principle of plurality and diversity of views, news, ideas and opinions.**”*

The regulator and the government must, therefore, exclude any commercial considerations or issues raised by telecom operators and Internet Service Providers in deciding the usage of spectrum, and ensure that access service providers are not allowed to manipulate access to information and the users ability to express herself via any means. Mandating licensing of Internet services and also not enacting a network neutrality legislation will negatively impact this plurality and diversity.

B) In its Prohibition of discriminatory tariffs for Data Services regulations, 2016 (No. 2 of 2016), the Authority⁷ has outlined the following structural underpinnings of Internet access:

(a) End-to-end design principle (minimum intervention principle): As per this principle the "intelligence" in a network should be located at the ends of the system. The communications protocols themselves (the "pipes" through which the information flows) should be as simple and general as possible. This design feature enables content providers to undertake permission-less innovation and facilitates free choice by consumers. The application of this principle, together with the minimum intervention results in a network that is transparent to the host application communication and provides for a general, application agnostic transport service

⁷ http://www.trai.gov.in/WriteReadData/WhatsNew/Documents/Regulation_Data_Service.pdf

(b) Adoption of universal network protocols: The use of open protocols developed collaboratively by users has enabled private networks to communicate with each other through standard packets and flow rate. This is what led to the creation of the decentralised architecture of the Internet that we see today.

(c) Transit and peering arrangements: The physical infrastructure that enables the transmission of data packets through the Internet involves a large number of actors and processes, of which a service provider and its consumers represent only one edge. Service providers are connected with each other and with Internet backbone systems through a web of transit and peering arrangements.

(d) Other governing principles: include Heterogeneity support principle; Robustness and adaptability principle; Unambiguous addressing principle; Loose Coupling principle; Simplicity principle; Connectionless packet switching and distributed adaptive routing; Network of collaborating networks - interconnection via gateways which focused at the connectivity functionality.

C) In the same regulation, the authority has also pointed towards the dangers of discriminatory activities from access service providers:

In its Clause 2.2(i) of the ISP Licence Agreement, while defining Internet access, provides for access to the Internet and all content available without any access restriction. Similarly, Clause 2.1 of Chapter IX of the Unified Licence Agreement provides that "The subscriber shall have unrestricted access to all the content available on Internet except for such content which is restricted by the Licensor/designated authority under Law."

Restrictions on accessing all content on the Internet could take several forms one of them being price based differentiation. Price-based differentiation would make certain content more attractive to consumers resulting in altering a consumer's online behaviour. While this might not be a major concern in a country where the majority already has Internet access, in a nation like India which is seeking to spread Internet access to the masses, this could result in severe distortion of consumer choice and the way in which users view the Internet. While not a direct restriction on a subscriber's access to the Internet, such practice acts as an indirect restriction by affecting the way consumers view content online.

We would contend that **discrimination in terms of speed of access will also make certain content more attractive to consumers resulting in altering a consumer's online behaviour.** This would lead to severe distortion of consumer choice and the way in which users view the Internet. Such practices result in an indirect restriction by affecting the way consumers view content online.

Question 4: What precautions must be taken with respect to the activities of TSPs and content providers to ensure that national security interests are preserved? Please comment with justification.

Answer: For us to recommend precautions related to national security interests, we would first request the authority to define national security and the specific issues covered under national security interests. Without a comprehensive and specific definition, it is impossible for anyone to define precautions for term that appears to be open to interpretation and abstract.

It is also been repeatedly stated by private telecom players that they are concerned with national security of content providers. **While the concern of any citizen should be appreciated to safeguard the national interest it should not be used to further their own commercial interests.**

In cases of concerns that, at the time, the government of India deems to be national security concerns, the government as well as courts has the authority to block platforms and websites as has been done in the past. One of the grounds for which many websites have been blocked in the past include national security and public order. This is as per the provisions which exist under the Information Technology (Procedure and Safeguards for Blocking for Access of Information by Public) Rules, 2009. As an extreme measure, even if websites are located abroad, these legal provisions may be utilised to block access to the platform or service in India itself by issuing an order to TSPs and ISPs.

We would also contend that it is in national interest to keep communication channels such as the Internet operational, and for national security and public order, the TRAI should recommend against comprehensive Internet shut-downs by the TSPs.

It is also pertinent to note a joint declaration from experts, including the the United Nations (UN) Special Rapporteur on Freedom of Opinion and Expression, declared⁸ that even in conflict situations, “Filtering of content on the Internet, using communications ‘kill switches’ (i.e. shutting down entire parts of communications systems) and the physical takeover of broadcasting stations are measures which can never be justified under human rights law.”

⁸<http://www.article19.org/resources.php/resource/37951/en/joint-declaration-on-freedom-of-expression-and-responses-to-conflict-situation>

Question 5: What precautions must be taken with respect to the activities of TSPs and content providers to maintain customer privacy? Please comment with justification.

The privacy of end users needs a comprehensive Privacy law, and the recognition of Privacy as a fundamental right, as a part of Article 21 of Constitution of India. It cannot be enforced piecemeal in terms of its substantive definition or in providing an effective mechanism for users to avail a process to redress an privacy breaches.

In their submission to the Standing Committee on Information Technology in 2013, the Department of Electronics & Information Technology (DeitY) has stated that the “IT Act, 2000 addresses *all aspects related to cyber crimes in a comprehensive manner* with adequate deterrent provisions. In addition, the National Cyber Security Policy 2013 has provisions to enable development of a dynamic legal framework and its periodic review to address the cyber security challenges arising out of technological developments in cyber space.”

Hence in the absence of a comprehensive framework, when such concerns have already been considered by the highest levels of Government it may not be appropriate for TRAI to bring in its own policy. Not only will it conflict against the pronounced intent of parliament but it may also bring regulatory uncertainty and discourage investment, innovations and new and better internet products and services to Indian users.

Any additional concerns on privacy and security are already under consideration of several government committees and have already been commented on including but not limited to the National Cyber Security Policy, 2013. These measures may properly be considered by an interministerial group composing of representatives from the Ministry of Home Affairs, rather in isolation by TRAI.

The Department of Telecommunications committee report on Net Neutrality clearly states:

Since the ISPs/TSPs are regulated by Indian laws, there is reasonable protection against the leakage and misuse of such data by them. However, content providers are largely unregulated and especially those who are not based in India. **Response to this issue will have to await a comprehensive law on privacy and data protection in the digital and physical space.**

Question 6: What further issues should be considered for a comprehensive policy framework for defining the relationship between TSPs and OTT content providers?

Answer: The presumption that Internet users are not also content creators is itself fallacious. Net Neutrality ensures that the Internet access is unique in that:

- It does not distinguish between a service provider/creator and a consumer: every consumer can be a creator, and every creator is a consumer.
- It is interactive, and often (such as in case of gaming, or comments in case of content being read) what is being consumed gets modified based on user interaction.

Thus, the Internet doesn't distinguish between creator and consumer by manipulating speed, cost or availability based on the source or type of access. This ensures that billions of blogs, code repositories and sources of knowledge can be created by contributions from not just businesses, but also consumers themselves.

Thus, the creation of a distinction between “OTT content creators” and users, and the treatment of the Internet as a medium which distinguishes between types of users is itself fallacious and would be in violation of the principles of Net Neutrality. In fact, this choice of terminology is contrary to the TRAI's own assertion, made in its Prohibition of discriminatory tariffs for Data Services regulations, 2016:

...unlike traditional markets where there are, for the most part, distinct producers and consumers, on the internet, users are also content producers. Social media websites, for example, are built largely based on user content. Regulation will thus have to be cognizant of this fluidity.

In particular, the World Bank report on Digital Dividends points towards the role of allowing everyone to become creators, especially children⁹:

This could be done through digital activities, such as programming. Scratch, a simple programming language for kids, can help develop abstract and critical thinking from an early age. Digital tools, such as wikis—online content management systems that allow for collaborative modification, extension, or deletion of its content and structure—can promote discussion and communication inside and outside the classroom. Many schools are now using hackathons, events where teams collaboratively work on software projects, and which can provide a creative space that also fosters problem solving. Incorporating learning games into classrooms (game-based learning) and applying the principles of gaming to education (gamification) could also foster higher-order cognitive and socioemotional skills, such as abstraction, reasoning, and teamwork, while bringing the power of play to education and engaging, inspiring, and immersing students in learning



One of India's biggest opportunities in improving access to education is distance learning. This is possible via IP based voice and video calls, and new and innovative tools such as Google Hangouts make it easy to facilitate this. With improvement in broadband connectivity and the rollout of Digital India, children across the country can have the opportunity to take advantage of online learning. Licensing and/or incorporating network utilization charges for IP based voice and video calls will add an additional cost burden, on top of data charges already applicable. Licensing and/or registration will also create an additional red-tape restriction, where currently one doesn't exist any more. **No licensing of any form or kind is necessary for any form of internet platforms and services offering communication services. Such a suggestion is regressive and smacks of a partisan tilt towards TSPs.**

Communication services which do operate on the internet layer are served through telecom licensees. Here, there is a well-articulated need for a license for the telecoms, which function as a "pipe". This requires the utilisation of spectrum that is allocated to a TSP. This can be used for data, voice and sms. The network is agnostic to the transmission however it does require, physical infrastructure, quality of service, payments etc. Hence, the licenses which are played on telecom service providers have a demonstrable need and social necessity. These needs are largely absent from internet platforms and services. Moreover since they are served over existing licensed TSP networks there is no need for an additional license.

There was a license for POP3 email services in India under the National Telecom Policy, 1994 which were subsequently abolished and no mention of them was contained in the National Telecom Policy, 1999 (Vikram Raghavan, Communications Law in India, Pgs. 472-477). With the proliferation of web based email services there were no licenses or additional registrations for web based email providers in India. This not only incentivised greater adoption of lower costs, but also increased consumer choice.

The question inasmuch it states that, "regulatory imbalances" exist ignores that substantial differences exist between internet applications and services and telecom or ISP licensees. Rather than, "imbalances", these are distinctions. Here the motivation to impose additional regulation on internet platforms and services is not understood and is neither well-articulated. The same "regulatory imbalances" were cited in the MVAS regulation in which arguments on two specific points were made to prevent mandatory licensing. The first that such services use the pipes of TSPs which are pre-existing licensees and second general laws govern such services.

Prevailing laws and regulations are equally applicable on internet services and platforms and are made applicable in the following manner:

1. Most internet specific laws have jurisdictional clauses which make substantive laws applicable to where the content is accessed or the crime is caused. Such

extra-territorial provisions which deem jurisdiction in such cases of illegality are contained within the Information Technology Act, 2000 and the Indian Penal Code, 1860.

2. It is also important to mention the Supreme Court of India's recent pronouncement in *Shreya Singhal v. Union of India* where it has had occasion to comment on the liability of intermediaries. Most internet platforms and services fall within this category as they do not create content, but provide platforms. Hence, end users most of which are residents in India will be liable. This is not only as per the dicta of the court but the conscious policy decision of the government in enacting Section 79 of the Information Technology Act, which makes such platforms, even if they provide communication platforms immune from liability for the acts of users.
3. Specific provisions exist for blocking of platforms from access in India as well as issuing letters rogatory for compelling the attendance of an accused. These process provide an adequate balance to international entities which provide.

Telecom operator claims of Internet Telephony being a regulatory arbitrage for voice services is bogus, because these are imperfect substitutes. Telecom operators have not innovative VoIP services, and are trying to prevent this innovation, which affords better voice quality and simpler integration with other services (such as with video for educational purposes). Today telecom operators are looking at messaging and VoIP in the context of PSTN based telephony, but we should keep in mind what might have happened if the world looked at email in the context of written letters¹⁰, or if a power company hikes charges specifically for CFLs¹¹ because users prefer them?

VoIP is also a part of many applications. Licensing of any one function of any app will restrict the functionality of that app. This will mean either of two things: apps that choose not to buy a license will not service Indian users, or they will give a limited experience to Indian users. Either outcome means that Indian users will get access to a poorer experience of the web, as compared with the rest of the world.

Telecom operators are likely to argue "Same Service Same Rules" for licensing of VoIP. This is a misnomer for multiple reasons:

1. **Imperfect substitutes:** VoIP and mobile/landline based calling are not the same service. VoIP services from Internet companies are IP to IP, while mobile calls can terminate on both landlines and mobile phone networks. Telecom operators have had the ability to terminate phone calls on VoIP as a part of their license condition for many years, but have chosen not to launch these services.

¹⁰

http://www.reddit.com/r/india/comments/2qiegm/important_announcement_from_postal_department/

¹¹ <http://zigzackly.blogspot.in/2014/12/jo-mera-hai-woh-mera-hai.html>

2. **Security requirements** imposed on telecom operators are already applicable to their data services, which consumers use to access the web.
3. **VoIP services have no control over Quality of Service (access):** while mobile phone calling has sufficient bandwidth for high call quality, and telecom operators are responsible for the quality of their access service, VoIP service companies have absolutely no control over the bandwidth available to consumers, since data access is provided by telecom operators and ISPs.

Same Service Same Rules is applicable only and only when sufficient bandwidth is available for purchase by each and every application service provider in the world, so that they can take complete control over the consumer experience.

Given that spectrum is a limited resource, that is impossible, and their dependency on telecom operators is absolute. Therefore, there should be controls put on telecom operators and their ability to throttle data access, which might hamper the experience of a user accessing a communications service via the Internet.

4. **Not free riding:** When VoIP calls are made, **consumers pay for both uploading and downloading of data**, unlike in case of phone calls, where the calling party pays. Therefore, whether a user is making a call or merely receiving a call, telecom operators on both sides stand to gain.
5. **Telecom operators do not see VoIP on their own networks as a threat:** On the Idea Cellular conference call on April 29th 2015, the company's CEO Himanshu Kampania said, when asked about any shift towards VoIP from their own services¹² :

“On VoIP, Idea has been in discussions with most equipment suppliers and have carried out our own tests. Our belief is that circuit switched voice is far superior to the technology over IP. In the long run, VoIP will have a far superior technology, and the coming technology is voice over LTE. That's where the high quality work has been done. Current quality of services does not compete with the circuit switched quality that we offer, for such a large mass of subscribers here 683 million minutes are being covered”...”Will VoIP be able to take a larger portion of voice? We are not seeing that trend at this point in time. And that has not been seen in any part of the world as of now.” - Idea Cellular CEO Himanshu Kampania

As is evident, the only threat that Idea Cellular faces from VoIP services is from VoIP on 4G networks. VoIP on its network will contribute to its data revenues. VoIP on other 4G networks only indicates a change (improvement) in technology, and it shouldn't be the mandate of the government to stop the march of technology.

¹² Transcribed from audio recording of Idea concall. Transcript not yet made public by Idea Cellular

Similarly, during its earnings conference call in February 2015 **Airtel CEO Gopal Vittal said that**¹³ “There is still no evidence that suggests that there is cannibalization”, and that the contribution of Internet Telephony (VOIP) “at this point in time is very, very tiny. And so it is not really material as we look at it.”

6. **In Licensing should be applicable to VoIP, then it must be applicable to other of imperfect substitutes, under “Same service, Same rules”:** At present, Telecom operators provide several other services which mirror existing services provided by licensed entities. Hence, the same rules should apply.
 - a. **Payment gateway services:** Telecom operators integrate with online service providers via their own API¹⁴ or through carrier billing providers such as Fortumo and Boku¹⁵. This allows consumers who have stored money in the telecom operator prepaid wallet to buy online music subscriptions¹⁶, video streaming subscriptions, e-books and articles¹⁷, along with other content. As per the “Same Service Same Rules”, Payments should be released to merchants in 2-3 days, as specified by the RBI guidelines¹⁸, which state:
 1. All payments to merchants which do not involve transfer of funds to nodal banks shall be effected within a maximum of T+2 settlement cycle (where T is defined as the day of intimation regarding the completion of transaction).
 2. All payments to merchants involving nodal banks shall be effected within a maximum of T+3 settlement cycle.
 - b. **Mobile Wallet Services:** Telecom operators store money in mobile wallets, which can be used to purchase goods and services. This is similar to the semi closed prepaid wallet ecosystem, wherein, as per the RBI guidelines, semi closed prepaid wallet licensees have to allow customers to withdraw money to their bank account, if required. Therefore, as per “Same Service Same Rules”, consumers should be allowed to withdraw money from their prepaid balance.
 - c. **Mobile VAS purchases:** Telecom operators allow consumers to buy digital content using their stored balance amount. This is similar to credit card and debit card payment systems. As per ‘Same Service Same Rules’ norms, these transactions should follow the 2 factor authentication system from

¹³<http://www.medianama.com/2015/02/223-no-evidence-of-voip-cannibalization-of-voice-airtel-india-ceo-gopal-vittal/>

¹⁴ <http://www.medianama.com/2014/01/223-vodafone-developer-india/>

¹⁵ <http://www.medianama.com/2015/03/223-mobile-billing-fortumo/>

¹⁶ <http://www.medianama.com/2014/02/223-saavn-operator-billing/>

¹⁷ <http://www.medianama.com/2014/04/223-newshunt-magazine-singles/>

¹⁸ <http://rbidocs.rbi.org.in/rdocs/notification/PDFs/DOIPS241109.pdf>

the Reserve Bank of India, which mandates the usage of either One Time Password or Verified By Visa/Mastercard 3D Secure to authenticate the transaction.

- d. **Music Streaming service:** telecom operators provide music streaming services on mobile VAS, called Mobile Radio. This is similar to FM Radio, and should be subject to the same guidelines as FM music, and telecom operators should have to procure a separate license to operate in each circle.
- e. **Video streaming service:** telecom operators provide video content on demand, as well as streaming services. This is similar to TV channels, and hence telecom operators should need to apply for an IPTV license for video streaming service.
- f. **Text alert service:** Telecom operators provide news via SMS alerts, including cricket related score updates and similar news. This is similar to publishing news content, and hence telecom operators should need to get an RNI registration to operate alerts.