IT *for* CHANGE

NGO in Special Consultative Status with United Nations' Economic and Social Council

Comments by IT for Change, Bangalore
to the Consultation Paper on Net Neutrality
issued by Telecom Regulatory Authority of India on 4th January 2017

Q.1 What could be the principles for ensuring nondiscriminatory access to content on the Internet, in the Indian context? [See Chapter 4]

Since this is the principal question that comes from chapter 4 of the consultation paper on "Core Principles of Net Neutrality", we understand that it concerns such core principles of Net Neutrality (NN). But since the question does not ask, "what should be the core principles of NN?", we assume that TRAI is not in favour of developing any such principles. We view this as an inappropriate approach. This is because Internet is a central pillar of social reorganisation towards a digital society; its nature and architecture must therefore be guided by clear public interest principles. In default, vested powerful forces will shape its nature/ architecture for various kinds of social, economic and political controls. It is the public interest, and our social and political values, which must determine what kind of Internet, and what kind of digital society, we get. These must be captured into a set of core principles of NN for a plural, empowering and egalitarian Internet.

In India, we can use the term "Digital India" instead of digital society because it represents a key political and policy agenda of the government. The government has a strong vision of Digital India "to transform India into a digitally empowered society and knowledge economy". Its key three areas are, "digital infrastructure as a utility to every citizen, governance and services on demand and digital empowerment of citizens".

For framing Internet regulation, including NN, we need to ask ourselves, what kind of Internet will ensure such a "Digital India"? And, what kind will prevent movement towards such an India? It is from this larger vision that TRAI must derive its vision for regulation of the Internet, and for its conception of a set of core principles of NN in the Indian context.

The framing of question one, and discussions in the consultation paper, suggest that TRAI prefers a minimalist conception of NN, derived from developed countries

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contexts. In fact, it goes a few steps ahead, which is not a good sign for India The above question speaks of “non discriminatory access to content”, as the stand-in phrase for- what is NN? This hardly makes for defining or framing NN- even compared to how EU and US define it. EU regulation speaks of an equal “right to distribute content” as well (which has very different implication from right to access content), and the US one speaks of “value to the society” and not just the user. (These quotes are taken from this consultation paper itself.)

The TRAI's approach on the other hand seems to centre just on accessing, and not distributing, content, and on user's individual interests and not of the larger society. Such minimalist (or non) principles based conception of NN that TRAI seeks, in our view, is not going to serve the government’s objectives for a “Digital India”. The context of Indian society requires us to be even more mindful of equity and larger social interest concerns than the developed countries as seems to be the case here. TRAI must revise the way it frames NN, and take a broader social, empowerment and rights based approach which is rooted in Indian contexts and the values that the Indian state professes. This must be set out as core principles that we seek for a Digital India and, correspondingly, for an Internet that is appropriate for that vision of India.

We had framed some such core principles of NN in response to the earlier TRAI consultation asking for them. Please see our earlier response.[1] We will briefly reaffirm those principles. (1) Internet is to be seen as an enabler of a level playing field, socially, economically, politically and culturally. (2) NN must be framed based on a rights based approach, including social, economic and cultural rights. (3) NN rules must be regulated by social outcomes, and not by technologies or the technology/ business actor involved (for instance, whether a telco or an Internet application).

While we consider it important that India specific NN principles are adopted, at the very least those adopted by EU and listed in this paper at section 4.1.4 should be seriously taken into consideration. Internet service should be identified as a public utility, as done in the US, and corresponding public interest principles laid out with regard to it. When Indian policy documents in all fields begin with the key social contexts and political visions for India, we are unable to understand why with regard to one on Internet policy makers are shying away from mentioning terms like rights, empowerment, equal opportunity, public interest, public utility, and so on. The very approach to Internet regulation must change fundamentally towards these directions.

Digital infrastructure and services represent a fast moving area. Unless we first develop clear guiding public interest principles, it will become impossible to protect public interest from eroding against the pushes of very strong economic interests that leverage rapid digital changes to develop rent-seeking structural positions. The latter will take us towards an inequitable society, and away from the Digital India we envision. A common set of public interest principles will allow us to address these problems as they arise.

1 http://www.itforchange.net/sites/default/files/ITfC%20-%20response%20to%20NN%20pre-consultation.pdf

To end, we think that “non discriminatory access to content on the Internet” is a very inadequate, even misleading, framework to describe NN. Much greater elaboration is required of what we mean by NN, especially in India's specific context. We understand that final regulatory rules and orders have to be narrow, specific and sharp, but they must follow from clearly articulated policy objectives and larger principles framed under them.

Q.2 How should “Internet traffic” and providers of “Internet services” be understood in the NN context? [See Chapter 3]

All IP based networks that are available to the public in a use-agnostic manner, as well as their functional equivalents, should be considered Internet, and the digital flows over it “Internet traffic”. All those who make such services available to the end users are providers of Internet services. Providers of services that are essentially oriented to such Internet service for end users, even if not in directly linked to them, would also be called Internet service providers (although, more correctly, Internet-related service provider), but perhaps should constitute a different category for regulation point of view.

a) Should certain types of specialised services, enterprise solutions, Internet of Things, etc be excluded from its scope? How should such terms be defined?

In this regard, roughly speaking, four kinds of services may be distinguished;

(1) Internet services that are directly available to all end users, the public Internet.
(2) Specialised services that cater to sectors or kinds of services that require guaranteed QoS like tele-health, automated cars, etc.
(3) IP based services that connect nodes within an organisation or other pre-defined set of actors, but not outside, also called VPNs.
(4) Services that may not directly connect to end users but mainly exist for the sake of provision of Internet services to the end user, like CDNs.

Only the first category should be allowed to use the name “Internet”. Others are IP based services but not Internet. All these different categories require different regulatory treatment. This is possible to do if, as argued in response to the first question, larger public interest principles related to society's communication and digital infrastructure are first laid out – including determining the nature of public interest in maintaining it as a level playing field and respecting and promoting people's rights – this includes negative and positive rights. These principles can then be applied to specific situations, including in terms of the above four categories of IP based communication services. We are unable here to go into elaborating how they will apply to each category, but doing so in reference to clearly specified overall public interest concerns and principles should not be too difficult.

Other categories above are relatively well defined but much controversy exists about

defining "specialised services". With most jurisdictions establishing NN rules, it is the "specialised services" exemptions that telcos and big Internet companies are likely to "innovatively" explore to violate the spirit of NN rules, and unfairly dominate the digital sector. It is therefore important to define this category precisely, keep a close track of how such a definition is employed, and fine tune it as required. For the present we would like to go with the following definition:

> ".....specialised service' means an electronic communications service operated and provided within closed electronic communications networks that is separate from the open internet. These services provide access for a determined number of parties to specific content, applications or services, or a combination thereof, do not replace functionally identical services available over internet access services, rely on strict admission control by deploying traffic management to ensure an appropriate level of network capacity and adequate quality relying on admission control and are not marketed or used as a substitute for internet access services."[2]

Based on these criteria, any specialised service should be especially pre-recognised by TRAI as such, including the manner in which it may connect or not with an Internet service.

(b) How should services provided by content delivery networks and direct interconnection arrangements be treated?
Please provide reasons.

As mentioned above, the four categories that we suggested will require different regulatory treatments. In case of CDNs and direct inter-connection arrangements, it is important to note that these services or actions are directly aimed at enabling Internet service as it reaches the end user, even if not directly connecting to her. While these services may be allowed, their social impact should be closely watched, especially to check whether: some services are crowding out other contents and services because of the difference in quality becoming too high due to CDN like arrangements; these arrangements are by themselves fair, equitably available to all, and telcos do not provide those availing of CDNs hidden priority benefits in the last mile connection to the end user.

Experts have noted how CDNs are becoming so dominant as to be replacing the public Internet in a very substantial measure. Geoff Huston, who has been called as the father of the Australian Internet[3], and inducted into the Internet Hall of Fame, observes:

> CDNs are essentially private systems, beyond the reach of conventional communications regulatory regimes. … In today's Internet what do we mean in a policy sense by concepts such as "universal service obligation"

2 https://edri.org/wp-content/uploads/2014/02/4-Criteria-for-Specialised-Services.pdf
3 http://internethalloffame.org/blog/2012/07/09/father-australian-internet-warns-address-crunch-0

"network neutrality" "rights of access" or even "market dominance" when we are talking about diverse CDNs as being the dominant actors in the Internet ecosystem?[4]

A close regulatory watch therefore must be kept on the impact of CDNs on *de facto* Net Neutral nature of the Internet, especially in terms of its plurality, and an equitable right to distribute. CDNs cannot be allowed to squeeze out a genuinely public and plural Internet. Once again, if we have appropriate public interest principles laid out for NN, and regulation is undertaken by outcome and not just the techno-business process employed, it would be possible to check unfair practices through evolving regulatory procedures.

Q.3 In the Indian context, which of the following regulatory approaches would be preferable:
[See Chapter 3]
(a) Defining what constitutes reasonable TMPs (the broad approach), or
(b) Identifying a negative list of non reasonable TMPs (the narrow approach).
Please provide reasons.

The "broad approach" is mentioned in the consultation paper as prescriptive and the "narrow approach" as the one based on larger principles but flexible within them. We think that there should be higher level broad principles – not of providing flexibilities for TMPs, but as encompassing the public interest issues implicated in regulating NN and TMPs (these are the same as the larger NN principles we mentioned in our response to Q 1). Within these principles, a broad approach should be taken that allows only such reasonable TMPs that are clearly defined. (Principles of no commercial motive and technical necessity that is objectively established, and is transparent, non-discriminatory and proportionate.)

Novel and/ or emergency situations can be dealt with by letting ISPs take the urgent action they deem necessary, but which they are confident that they can defend for the broader public interest principles that have been laid out. Any such action should be reported to TRAI within a stipulated short period, with justification, and how it measures up to the broad public interest principles. Based on this, the regulator will take a decision whether the practice should be disallowed, or allowed as a new category of exception accepted as a legitimate TMP. It can also decide that the whole effort was a bad faith one by the ISP and no case of plausible adherence to the public policy principles established can be made out, in which case the ISP can be appropriately penalised.

Therefore, we propose a "broad approach" with a list of allowed TMPs, but with higher public interest principles being laid out to take care of emergent, possibly novel, situations (the need to deal with which is the main justification given by those proposing a "narrow approach").

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4 http://www.potaroo.net/ispcol/2017-03/gilding.html

Q.4 If a broad regulatory approach, as suggested in Q3, is to be followed: [See Chapter 3]

(a) What should be regarded as reasonable TMPs and how should different categories of traffic be objectively defined from a technical point of view for this purpose?

As mentioned, core principles of NN will guide the overall determination of what is considered as reasonable TMP in the extant situation, and also for new, unexpected, situations, in the future. Currently, the definition followed by EU as described in the consultation paper's section 3.4.1 i, iv, and x, seems appropriate and adequate.

As to defining different categories of traffic from a technical point of view, regulator should undertake a technical study in this regard, taking wide inputs, and share its findings for public comments. Pending that exercise, all discrimination should be disallowed.

(b) Should application-specific discrimination within a category of traffic be viewed more strictly than discrimination between categories?

The broad principle has to be of no discrimination at all. But, of course, discrimination within a category of traffic is absolutely unacceptable (this is the very meaning of these categories). As for discrimination across categories, we recommend TRAI to take up a technical review in this regard. Pending this, such discrimination should not be allowed. If any comes to TRAI's notice, it should be assessed against high level NN principles that we seek to be laid down and an appropriate decision taken. (We do have sympathy for issues like video streaming congesting networks, say in places where public free Wi-Fi is more urgently needed for checking travel information etc. Therefore category of traffic based discriminations in some contexts can be in public interest. However, we will not explore such case scenarios here, other than mentioning that any such discrimination should always meet a clear public purpose, which can only be determined by a duly constituted authority/process, mostly by the regulator itself.)

(c) How should preferential treatment of particular content, activated by a users choice and without any arrangement between a TSP and content provider, be treated?

We are unable to understand how a user can control, even through the mediation of the ISP, preferential treatment of any particular content, which for the most part will travel through a pipe that she shares with other users. Will the content/ service get a preferential treatment for all users of that common pipe as well? But what if other users did not want it, for that particular content/ service? On the other hand, there will be little point in providing preferential treatment only for that very part of the pipe that is exclusive to the user.

Q.5 If a narrow approach, as suggested in Q3, is to be followed what should be regarded as non reasonable TMPs? [See Chapter 3]

A narrow approach should not be used. As expressed in the consultation paper, in this fast moving field, with the digital context allowing many kinds of technical/business model flexibilities, any narrow approach will soon get circumvented, in manner that works against public interest.

Q.6 Should the following be treated as exceptions to any regulation on TMPs? [See Chapter 3]
(a) Emergency situations and services;
(b) Restrictions on unlawful content;
(c) Maintaining security and integrity of the network;
(d) Services that may be notified in public interest by the Government/ Authority, based on certain criteria; or
(e) Any other services.
Please elaborate.

Yes, these should be treated as exceptions. Such exceptions also underline why NN should be seen as a social regulatory principle(s) and not a narrow technical issue (as the framing "non discriminatory access to content" suggests.)

While exceptions (b) and (c) are obvious, and (c) almost so, it can hardly be argued that in case of public or personal emergency – exception (a) – one must insist on protocol even when it could mean great damage to life and/or property. NN purists would normally oppose exception (d), as they would not want the exercise of discretion on matters that cannot be objectively determined. We are of the view that important and essential services like public services, basic and essential information, etc, should be available for free (free of data charges) on the Internet. However, determination of the such priority or free content cannot be left in the hands of the government's executive branch. It must be with the regulator to decide and must abide by the pre-defined principles, and must be subject to judicial review. Every time a new category or content is added to this list (which should be done in only rare cases), it must be expressly justified by the nature of public interest that is met, and how it adheres to the pre-defined principles. This is imperative to protect the Internet from becoming a major means of state's (incumbent government's) propaganda.

As for (e), it obviously means any services other than those duly notified by competent authority, as discussed above. No such exceptions should be allowed, even if is seen as serving public interest. ISPs cannot be given that discretion.. Under no circumstances can they choose to favour any kind of content, however good their intention may be, and even if there be complete absence of any proof or signs of bad intention or vested interest. As argued above, we do not favour even government doing it; only the quasi-judicial regulator can decide what is public interest content, subject to judicial oversight.

Q.7 How should the following practices be defined and what are the tests, thresholds and technical tools that can be adopted to detect their deployment: [See Chapter 4]
(a) Blocking;
(b) Throttling (for example, how can it be established that a particular application is being throttled?); and
(c) Preferential treatment (for example, how can it be established that preferential treatment is being provided to a particular application?).

These terms are fairly well defined in mature NN regulatory frameworks discussed in the paper, and we can follow those definitions.

Q.8 Which of the following models of transparency would be preferred in the Indian context:[See Chapter 5]
(a) Disclosures provided directly by a TSP to its consumers;
(b) Disclosures to the regulator;
(c) Disclosures to the general public; or
(d) A combination of the above.
Please provide reasons. What should be the mode, trigger and frequency to publish such information?

All of these, as extensively and frequently as feasible, as determined by the regulator.

Q.9 Please provide comments or suggestions on the Information Disclosure Template at Table 5.1?Should this vary for each category of stakeholders identified above? Please provide reasons for any suggested changes. [See Chapter 5]

The one provided in the consultation paper is satisfactory.

Q.10 What would be the most effective legal/policy instrument for implementing a NN framework in India? [See Chapter 6]

Internet is a powerful complex and dynamic artifact, which makes NN a difficult area to regulate. The existing enabling laws have been made in a different era and context. On the other hand, we still cannot predict the nature of technical changes, even in the near to mid term. In light of these circumstances, we have a two layered response to this question.

As an immediate measure, TRAI should take the option which it described in the paper as "put in place an umbrella regulation on NN, with subsections addressing tariff (incorporating the existing regulations on discriminatory tariff), QoS and related transparency requirements." Coming to the issue of NN from two different direction: banning differential tariffs for different content (as already done) under one kind of

powers that TRAI has; and establishing rules for non-discriminatory QoS for all content, under another rule- is not a satisfactory approach for the long-run, although it can serve as a stop-gap arrangement. We will soon see new technical and business models that find other ways of doing the same kind of discriminations as these two measures try to stop. (As already being done by Internet applications providing *de facto* zero rating for select content through auto-replenishing user's data packs in short time cycles – a practice that TRAI, unfortunately, seems to have approved in an earlier order.)

TRAI should therefore leverage a broad range of mandates and powers given to it under the enabling law to come up with a framework NN regulation, which lays done the larger public interest principles behind NN, and how they will be operationalised in current circumstances. It must establish a mechanism for constant review of Internet services, it's emerging and new technical and business models, and their social impact. As a regulator, TRAI must be most concerned with the nature of social impact, and not just who causes it and through what means. It should take all steps to prevent adverse social impacts, and promote positive ones. If it finds itself unable to take appropriate steps within its power and mandate, it should make necessary recommendations to the government to take the required steps, including adoption of new laws and expanding/creating new mandate/ powers for TRAI.

TRAI should also advice the government to amend the licence for ISPs to incorporate these NN rules, which gives an extra edge to TRAI's enforcement capacities. As observed in the paper: "The Authority could accordingly recommend amending the license agreement to add an explicit reference to the core principles followed by a general mandate to adhere to "directions issued by the Licensor/TRAI from time to time."

As a more permanent measure, TRAI must recommend to the government to look at the general nature of digital infrastructures in the digital age, in their role in ensuring a Digital India as envisioned by the government (Digital India documents centrally refer to digital infrastructure). It should make an assessment of such various horizontal infrastructures, beginning from the telecom infrastructure, whose neutral, or rather equitable, nature is essential to ensure an equitable and empowering digital society.
In an earlier TRAI consultation papers on NN referred to "search neutrality", and the last question 13 here refers to how the nature of browser, operating system etc affects user's digital experience and opportunities. There have been major discussions worldwide on algorithm transparency, and platform governance. All these issues, beginning with NN, fall in a single large basket – of ensuring basic techno-social conditions of equity, non-discrimination and empowerment in the digital society. With provision of such an equal playing field, and thus ensuring of equal opportunity (which is the very meaning of digital empowerment, as envisaged for "Digital India"), actors can then employ their skills and competitive advantages for shaping their social and economic advancement. Basic principles of NN, or equity and justice, for techno-social infrastructures of a digital society must be enshrined in a new legislation, with

contextual elaborations with regard to each of the mentioned areas. This, we think, is the most appropriate and moreover sustainable solution for ensuring NN. This will however, also require considerable extension of TRAI's mandate, including perhaps a change in its name to "The Digital Regulatory Authority of India", or "Telecom and Digital Regulatory Authority of India".

(a) Which body should be responsible for monitoring and supervision?

TRAI's misgivings on this count due to its limited resources are understandable. It is an undeniable fact that the nature and role of digital communication infrastructures in current times, and even more so in the near future, are incomparable to what has been till now. The issue here is not just of the enabling laws and mandate of TRAI but also its operational structures and resources. However, stop-gap measures will not do. Such is the importance of digital infrastructures to the nature of the emerging digital society that ham-handed short-term fixes can cause major structural distortion which would be very harmful to public interest. We would advise extreme caution in this regard, since we are in the formative times of a new social design. Defects that get introduced in it today are likely to become so deeply entrenched as to possibly become irreversible.

Therefore, there is no option other than for TRAI to develop its capacity so that it can deal with what is. Essentially a public and regulatory role that only a public regulator can play it. Monitoring and supervision cannot be given off to any other body – certainly not to a private body. Sanctity of what is public role and function must be maintained, and cannot be handed over to unaccountable private interests. This is a key tenet of democratic social organisation. Meanwhile, TRAI must takes step to further promote participatory democracy and should become more open and do more regular consultations with public. (It is already doing a good job of it!)

In conclusion, TRAI must be in charge of supervision and monitoring. It should seek more resources for itself for this purpose, and set up specialised cells that are resourced and skilled for this job.

(b) What actions should such body be empowered to take in case of any detected violation?

NN violations concern very powerful business entities, and involve long term perverse interests. These very often involve cross-sectoral collusion of big business interests. The penalties, beginning with financial ones, must therefore be so strict that they can actually act as a deterrent. They should rise rapidly with the period of violation. Extended violations should result in suspension of license, and repeat violations in its cancellation.

(c) If the Authority opts for QoS regulation on this subject, what should be the scope of such regulations?

No distinction in QoS between different kinds of content should be allowed, other than reasonable TMPs clearly exempted by the regulator, and other kinds of content categories that may be allowed through clear and specific order of the regulator, like emergency services, that we have discussed.

Different QoS for specialised services will be allowed within a separate regulatory framework, which will closely follow the manner in which these services are used, their price determined (which must be cost based), and whether they are available equitably to all actors who want to use it (without price, nature of actor, standards, etc based exclusions). What we are insisting here is that even if different QoS parametres are allowed for "specialised services", even within this category the larger public interest principles for NN will have to be applied to ensure an equal playing field for all, and no unfair advantages to any.

Q.11 What could be the challenges in monitoring for violations of any NN framework? Please comment on the following or any other suggested mechanisms that may be used for such monitoring: [See Chapter 6]
(a) Disclosures and information from TSPs;
(b) Collection of information from users (complaints, user-experience apps, surveys, questionnaires); or
(c) Collection of information from third parties and public domain (research studies, news articles, consumer advocacy reports).

All of these are required, and are indispensable in order for TRAI to perform its functions adequately. As we suggested, TRAI may need new resources and internal specialisation and a committed cell for this purpose. These above mentioned processes should be supported by such a cell, and integrated into its activities.

Q.12 Can we consider adopting a collaborative mechanism, with representation from TSPs, content providers, consumer groups and other stakeholders, for managing the operational aspects of any NN framework? [See Chapter 6]
(a) What should be its design and functions?
(b) What role should the Authority play in its functioning?

We find the suggestion for a "collaborative mechanism", considerably underscored and developed in the consultation paper, quite intriguing. Not to jump the gun, but the manner of the description of this option gives us the feeling that TRAI is already predisposed towards it. First of all, we are unsure what exactly is this proposed mechanism supposed to do. Is it a mechanism for supervision, for implementation or for monitoring. The discussion in the consultation paper moves indiscriminately between these very different functions of public bodies. Below are some quotes from

the paper about the likely function of this new proposed mechanism;

> “adoption of a collaborative approach for reviewing the effectiveness of any NN framework”
>
> “a multistakeholder initiative to review compliance with NN requirements”
>
> “ address new challenges in implementation”
>
> “ review and coordination process”
>
> “ to provide inputs on the technical and operational aspects of implementation of any NN framework”

The discussion in the consultation paper begins with highlighting “the key issue of identifying the body that should be responsible for monitoring and supervision of any NN violations”. And the above question 12 is framed as “ adopting a collaborative mechanism, with representation from TSPs, content providers, consumer groups and other stakeholders, for managing the operational aspects of any NN framework”.

These are a bewilderingly different kinds of public functions; from advising and providing inputs, to reviewing effectiveness, to reviewing specific compliance, to addressing challenges in implementation, to coordination, to monitoring compliance, to supervision, to managing operational aspects of NN! The question arises, what exactly is TRAI planning to outsource to a multistakeholder body, which includes the very companies that it is supposed to regulate. Does it really plan telcos to participate in supervising NN, monitoring and reviewing compliance, and managing operational aspects of NN framework? Can there be a worse form of regulatory capture!

The proposal of an outside body, mentioned here in this question as a possibly multistakeholder body, is made much worse with the example considered in the consultation paper of US based Broadband Internet Technical Advisory Group (BITAG). BITAG is an industry driven forum, whose main purpose was to forestall NN regulatory moves that were building up at the US regulator's. In any case, even BITAGs own definition of its role was fully advisory, to “inform federal agencies in their industry oversight functions."[5] rather than the extensive roles envisaged in the TRAI paper. The key US civil society group Free Press criticized formation of BITAG by observing: “Allowing industry to set its own rules is like allowing BP to regulate its drilling." (Interestingly, data has been called by many observers as the “new oil”, in terms of its systemic economic impact.) We strongly advise TRAI to forgo going down any such route of – excuse our use of the phrase – formalising regulatory capture by telecom and data companies precisely at a time when strict and vigilant regulation of the digital sector has become of paramount importance.

The other example discussed in the paper is of Brazil Internet Steering Committee, an

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5 All quotations in this paragraph are from https://arstechnica.com/tech-policy/2010/06/net-neutrality-advisory-forum-wants-engineers-to-hash-it-out/ .

institution we respect a lot, and have had occasions to work with closely. However, in terms of NN or such Internet related social policy issues, this body's role is entirely advisory. Its main role is with regard to technical governance of the Internet. Further, the nature of composition of this body has been planned extremely carefully to avoid any kind of capture, and ensuring sustained focus on public interest. Such a body would be worth considering for India, but with similar kind of care with regard to its constitution, but that is a separate and a larger discussion – in view of a very different mandate and role of that body. That kind of body cannot come into existence for the limited role envisaged for it in the consultation paper. It is to be developed in India, it should have a similar role as in Brazil, and similar composition. (We do recommend exploring this.) However, it still can hardly take up the long list of roles that TRAI envisages for a new body.

If TRAI's objective is to become more participative, and open to public and stakeholders, we suggest that it adopts a structure of three stakeholder advisory committees – one each of civil society, business (including but not just telecom), and technical experts. Such a structure is used by the Committee for Digital Economy of OECD, and it works quite well. This OECD committee's work methods on how advice and inputs are taken from these advisory committee and processed may also be adopted in general. Sufficient care should be taken to lay rules on how these advisory committees are constituted, ensuring full representation of a wide set of interests and views. But to repeat, they will have only an inputting and advisory role.

Beyond getting inputs and advice, it is really not possible to outsource any core public functions that TRAI and other government agencies are supposed to perform. Monitoring appears to be the chief concern of the regulator here. TRAI must provide sufficient new means of taking in outside information and knowledge, supporting civil society watchdogs, protecting whistle-blowers from within telecos, and so on, for this purpose. Beyond that, monitoring is an enforcement related function, it cannot be allowed to be filtered through processes dominated by those who are supposed to be monitored in the first place namely telcos and other businesses with vested interests in violating NN.

Q.13 What mechanisms could be deployed so that the NN policy/regulatory framework may be updated on account of evolution of technology and use cases? [See Chapter 6]

The above suggested structure of tripartite advisory committees structure will be very useful to keep track of evolution of technology and use cases. Apart from it, TRAI would have to upgrade its in-house research and analysis capacities, and build close relationships with academic and other policy research centres.

Q.14 The quality of Internet experienced by a user may also be impacted by factors such as the type of device, browser, operating system being used. How should these aspects be considered in the NN context?Please explain with reasons.[See Chapter 4]

As we have argued earlier, a neutral and equitable digital society, for equalising social and economic opportunities, requires the neutrality of many horizontal layers of digital system that underpins such a digital society. All these layers therefore require public interest regulation. There are some common larger public interest principles for all these layers and many more specific ones. We suggest that TRAI recommends to the government to explore a “digital equality” legislation, that will provide the enabling basis for appropriate and sustained NN regulation, as also for corresponding regulation in other digital layers/areas.