



**GSMA**  
11th Floor, Hindustan Times House  
18-20 KG Marg, Barakhamba,  
New Delhi - 110001  
Tel: +91 (011) 4322 4400  
[gsma.com](http://gsma.com)

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**Shri. Asit Kadayan**  
Advisor (QoS),  
Telecom Regulatory Authority of India (TRAI),  
Mahanagar Door Sanchar Bhawan, J.L. Nehru Marg,  
(Old Minto Road)  
New Delhi - 110002, India  
Email: [advqos@trai.gov.in](mailto:advqos@trai.gov.in)

**Subject:** Consultation on *Traffic Management Practices (TMPs) and Multi- Stakeholder Body for Net Neutrality*

**Ref:** Consultation paper: 2 January, 2020

Dear Sir,

This is with reference to the consultation paper on '*Traffic Management Practices (TMPs) and Multi- Stakeholder Body for Net Neutrality*'.

Please find attached GSMA's comments on this consultation as **Annexure-1** to this letter. We hope that our response will merit your kind consideration.

Yours sincerely,



(Manoj Kr Misra)  
Sr. Public Policy Director-India  
Email: [mmisra@gsma.com](mailto:mmisra@gsma.com)  
Mob. No. +919818210011

Enclosed: As above (*ANNEXURE-1, number of pages – 12*).



GSMA's Response to TRAI Consultation Paper on  
Traffic Management Practices (TMPs) and Multi- Stakeholder Body for Net Neutrality

Introduction:

The GSMA would like to submit its views on this important TRAI consultation paper. We believe that the current principles of Net Neutrality already address any concerns the regulators and stakeholders may have related to the traffic management practices.

The mobile internet has revolutionized the way business is conducted and individuals interact with each other and society as a whole. Mobile telephony today delivers the new age of connectivity to more than 9 billion people on earth, with over 714 million unique subscribers in India alone<sup>1</sup>.

The GSM ecosystem now deploys mobile internet services using 4G/LTE and 5G technologies, faster than any other previous mobile technology ever deployed. This shows that the evolution of the internet with a range of applications and services has been well supported by underlying investment in mobile networks and new technologies, thanks in part to regulation in many countries which has remained flexible and fostered such innovation.

In India as well, Mobile industry supports Government to Consumer (G2C), Business to Business (B2B), Government to Government (G2G), Business to Consumer (B2C) and Consumer to Consumer (C2C) data flows, as well as services which ride on top of the Digital India strategy and its various application components (e.g. Aadhaar, UPI, DBT, Health Card, National Survey, eKYC, Digi Locker etc.).

This demonstrates that telecommunications (mainly mobile) networks have actively been able to generate and sustain trust with consumers over the years, as technology enables increasing access to life enhancing digital services. The growth and adoption of these myriad products and services would not have been possible (Please see table below), had the TMP flexibility available for network operators been restricted or straight-jacketed.

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<sup>1</sup>\* GSMA Intelligence, Q4 2019.



Particulars	Value/Period
Digital Payment ( UPI) <sup>2</sup>	1305 mn Transactions INR 2,16,242 Crore (total transaction value) (as on Jan 2020)
Direct Benefit Transfer <sup>3</sup> (in INR)	9.22 Lakh Crore (cumulative since 2014-15, as on 12 Feb, 2020)
Aadhar Generation <sup>4</sup> (population biometric)	125.37 Crore (cumulative as on 12 Feb 2020)
GeM <sup>5</sup> (e-commerce platform)	3,393,809 orders & Transaction Value INR 46,424 Crore (as on 12 Feb, 2020)
GSTN <sup>6</sup> (Tax collection platform) <small>Payment through the portal (excluding IGST on imports)</small>	22.04 Lakh Cr. payments on portal 110 Crore E Way Bills generated (as on 10 Feb, 2020)

Evidenced from above, mobile broadband does much more than just provide faster access to online services - it is also bridging the digital divide, advancing financial inclusion, helping accelerate the achievement of the UN's Sustainable Development Goals (SDGs) and bringing mobile internet to millions of Indians who have no access to fixed broadband services and are unlikely ever to do so.

#### General Comments:

##### 1. The limitations of mobile networks require Traffic Management:

It is fundamentally important for all of us to acknowledge that the **mobile networks** face inherent unique operational and technical challenges in providing fast, reliable internet access to their customers, due to the shared use of network resources and the limited availability of spectrum, both of which is that **they have a finite capacity - which means they can experience congestion at busy times of the day, when many people are trying to access the network.**

Thus, mobile operators must rely on proven traffic management techniques to efficiently manage network resources including key input spectrum so that they are able to provide services to a huge number of users without jeopardizing the end-user experience and quality of these services. Congestion management is essential to prevent the network from failing during traffic peaks, and to ensure that access to essential services (such as emergency

<sup>2</sup> <https://www.npci.org.in/product-statistics/upi-product-statistics>

<sup>3</sup> <https://dbtbharat.gov.in/>

<sup>4</sup> [https://uidai.gov.in/aadhaar\\_dashboard/](https://uidai.gov.in/aadhaar_dashboard/)

<sup>5</sup> <https://gem.gov.in/>

<sup>6</sup> <https://www.gstn.org.in/>



services) are not interrupted. *To meet the varying needs of consumers and to address the fundamental capacity limits of a mobile network, operators, need the ability to actively and proportionately manage the traffic which runs through their networks.*

Different services have different technical delivery requirements to make them work effectively and securely. Consumers and business have different expectations depending on the type of service they are accessing. For example, if a consumer is streaming a video on their mobile device, they will expect a certain speed to be delivered so that they can watch this content with minimal delays – this requires much more bandwidth on the network than if the same customer is reading an email, or browsing the internet.

For instance, using mobile networks, enterprises provide different services over cloud as per end enterprise/customer requirement – often denoted by IaaS (Infrastructure as a Service), PaaS (Platform as a service), AaaS (Application as a Service), SaaS (Software as a Service). All e-commerce platforms, be it private or government deploy traffic management practices to serve their customer needs.

In the future, services will continue to advance in terms of the bandwidth and network capacity that they require, and will do so in complex and dynamic ways. Operators will therefore need to manage these demands on their network in even more sophisticated ways, ensuring that they are optimizing full use of the network in real-time and continuing to deliver high quality, innovative services to their customers. Ultimately, in order to deliver the level of experience that mobile consumers now expect, the intelligence of the network and its ability to respond to rapid changes in traffic demand will be essential - innovation and customer satisfaction cannot be achieved through a one-size-fits-all solution.

In considering the issue of traffic management within mobile networks, regulators should recognise the fundamental technical differences between fixed and mobile networks, including technology differences and the impact of finite radio frequency availability. Unlike fixed broadband networks, where a known number of subscribers share capacity in a given area, the capacity demand at any given cell site is much more variable, as the number of subscribers constantly changes, often unpredictably, as does the type of services that these subscribers are trying to access. The available bandwidth can also fluctuate due to variations in radio frequency signal strength and quality, which can be affected by weather, the number of devices trying to connect to that cell site, the services those devices are accessing and the presence of interfering devices such as wireless microphones.

Furthermore, **not all traffic makes equal demands of a mobile network**; for example, voice traffic is time-sensitive while video streaming typically requires large amounts of bandwidth. Networks need to be able to apply network management techniques to ensure each traffic type is accommodated and to support innovations with 5G and Internet of Things (IoT). The principle of the open internet and allowing network operators to offer a variety of service options to consumers are not mutually exclusive. As the net neutrality debate has evolved, policymakers have come to accept that network management plays an important role in service quality.



The above aspects of mobile networks – which are particularly important in the Indian context, as the country is predominantly a mobile market – should be at the heart of policymaking. Understanding the fundamental characteristics of mobile networks, the nature of traffic, and the technical constraints that mobile operators must work within in order to continue providing service to millions of Indians, should be carefully considered ahead of any regulation regarding this important issue. Overly-prescriptive interventions carry a high risk of leading to unintended consequences which will impact the consumer experience and take away the operators’ ability to flexibly and dynamically manage their networks in the most efficient manner possible.

## 2. Proportionate traffic management as a tool for fostering innovation:

While on one side, the inherent nature of mobile networks as highlighted above is a core consideration for TMPs, on the other hand **mobile operators need the flexibility to experiment and establish new business models that align investment incentives with technological and market developments, creating additional value for their customers.** As the operational and business models of networks evolve, a whole host of innovative services and business opportunities will emerge.

Traffic management techniques are necessary and appropriate in a variety of operational, legal and commercial circumstances e.g.:

- **Network integrity** - Protecting the network and customers from external threats, such as malware and denial-of-service attacks.
- **Child protection** - Applying content filters that limit access to age-inappropriate content.
- **Subscription-triggered services** - Taking the appropriate action when a customer exceeds the contractual data-usage allowance, or offering charging models that allow customers to choose the service or application they want.
- **Emergency calls** - Routing emergency call services.
- **Legal requirements- The Court orders**
- **Delivery requirements** - Prioritising real-time services, such as voice calls, as well as taking into account the time sensitivities of services such as remote alarm monitoring

Operators do not support an un-managed approach, whereby all services have to be provided on a best-effort basis only. Operators strive to offer a variety of services and fulfill diverse customer expectations in a very dynamic and innovative market. This cannot be achieved through a one-size-fits-all solution. Services in the future are likely to be more sophisticated. In order to deliver the right customer experience, network intelligence in terms of traffic management will be required and essential.



In order to find innovative services that will support further network investment and lower prices for consumers, network operators need continued flexibility to experiment with different service offerings and business models as all participants in the internet ecosystem.

### 3. The Principle of Proportionate Regulation – the basic question:

This debate brings us to another basic principle of regulation – that the regulators should only regulate when necessary. The economic regulation must address market failures, based on evidence from up-to-date market reviews. Regulators must be clear about the reasons for, and impact of, regulation in all cases.

This means before intervening or regulating, an evidence based analysis and assessment should be done. We have not seen any evidence of any market failure on account of TMPs, impact of any such failure and where network provider failed to address the failure concern - .It would be helpful if the TRAI could set out what concerns it is trying to address, whether current or future. ,

As the Telecommunications Regulatory Toolkit<sup>7</sup> recognizes;

*“Regulation is not a panacea. While it may address market power concerns, regulation comes with costs. Where it is possible, effective competition will generally deliver better outcomes than regulation.*

*Where regulation is necessary, regulatory forbearance is the key to good outcomes. Regulatory forbearance is about focusing regulation to where it is needed, and withdrawing regulation in those parts of the market where it is no longer necessary. In other words, the concept of regulatory forbearance rests on the goal of gradual removal of ex-ante regulation and an accompanying increase in the use of general ex-post competition regulation.”*

We endorse this statement. Government and regulatory intervention, even when well-intended can have a distorting effect. Regulation that affects an operator’s ability to handle their mobile traffic is not only not required, it is a disproportionate response to the current consumer experience. Any regulation that limits an operators’ ability to flexibly manage the end-to-end quality of service and provide consumers with a satisfactory experience is therefore inherently counterproductive, as overly prescribed monitoring and regulation of these practices will only serve to reduce an operators’ ability to maintain a consistent consumer experience.

### 4. The Global Developments:

Globally, different countries have taken different approaches to net neutrality and traffic management. After years of legal battles, the Trump administration repealed the net neutrality

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<sup>7</sup> Telecommunication Regulatory Toolkit, 10<sup>th</sup> edition, quoted, pp 31 and 32





rules, claiming they would stifle innovation. Japan has a hands-off approach to regulation, and relies mainly on voluntary industry regulation. Australia has no specific regulation, but stronger consumer protection laws prevent providers from throttling or blocking competitors' content, and mandate transparency of traffic management practices. Before the EU Regulation on the Open Internet took effect, the vast majority of fixed and mobile ISPs signed up to the Open Internet Code, which set out a number of commitments signatories adhere to, including a predefined format used for transparency of traffic management practices. In the UK, facilitated by the Broadband Stakeholder Group (BSG), the vast majority of ISPs signed up to the Open Internet Code on a voluntary basis from 2011.

The Code sets out a number of principles to which signatories have to adhere, including a transparency requirement around traffic management practices. All signatories to the Code publish their practices in the same format, making it easy for consumer to compare between ISPs. The NRA deemed the Code effective. When the EU Regulation on the Open Internet took effect in 2016, ISPs continued to use the same format for publishing their traffic management practices

**In summary:**

We support the view that there is currently no need for ex-ante regulation to prohibit all traffic management, and, innovation is alive and well in the mobile eco-system as witnessed by the success of application downloads and emergence of new and innovative services.

Reasonable and proportionate traffic management is necessary and should not be considered as secondary to network investment. Network investment decisions and dimensioning of networks should be left to operators. Efficient use of network resources should be an overriding objective.

With the current pace of innovation and new technologies emerging, including onset of 5G, having both the confidence in the regulatory environment and the freedom to explore new deployment scenarios, service offers and commercial models for consumers and businesses across sectors is going to be the cornerstone of Indian competitiveness in the digital ecosystem. Our members (network operators) are not only building the connectivity infrastructure that underpins the digital economy, but also are driven to serve the variety of customers with the services they demand, as well as providing the quality they require. Operators should have the flexibility to dynamically configure their networks to meet the variety of use cases and the ability to manage the allocation of network resources.

We believe, that India should also leave the TMPs to the network operators for them to be able to deliver the best customer quality and experience, and let the industry self-regulate. The Regulator / licensor can always ask for relevant information, which requires assessment of the TMP of the operator on case by case basis.

In view of the above, we submit that instead of a specific Multi Stakeholder Body to look into



TMPs, the industry should be encouraged to adopt a self-regulating code of practice, which adheres to the common guiding principles (and license conditions), to minimize risks of distortionary effects.

Further, the GSMA is of the opinion that consumers' literacy and understanding concerning the functioning of mobile networks and traffic management should be enhanced. This can be achieved by stakeholder working groups bringing together public authorities, consumers associations, operators and industry associations in order to define a way of effectively delivering information about Internet products and services to consumers.

In subsequent sections, we submit our answers to the specific questions raised by the TRAI.

#### TRAI Consultation Questions

*Q1 What are the broad types of practices currently deployed by the Access Providers (APs) to manage traffic? Out of these practices, which ones can be considered as reasonable from the perspective of Net Neutrality? Can a list of Traffic Management Practices (TMPs) be prepared in advance or would it be required to update this from time to time? If the latter is yes, what framework would be required to be established by a Multi-Stakeholder Body to keep it up to date? Please suggest with justification.*

#### GSMA's Comment:

The Consultation Paper presumes that traffic is only governed by a network provider. Often, the situation is dictated by the Content Provider and/or End Consumer, and configuration settings by User Equipment (UE) Provider too. Traffic is managed and end-user speeds can be impacted at several points within a wireless network and often such points may not be within the control of a network provider.

The Consultation Paper takes note of Challenges to list TMP. It acknowledges through terms like 'reasonableness', 'dynamic in nature', 'proportionality', 'transient nature', 'transparency' etc.

- It is worth noting that the methods (*sparingly used on a voluntary basis*) used now may not be those that MNOs need to utilize in the future (because of changing Technology Landscape - particularly when considering 5G and associated verticals and increases network virtualization, Dynamic Spectrum Sharing aspects -which will require many different types of configurations).
- Regulations should acknowledge the multi-faceted nature of traffic management and provide the flexibility to operators to implement reasonable traffic management in order to provide services that are optimized for specific content, application or services where such optimization is necessary to meet a specific level of quality. **Operators should also have the flexibility to dynamically configure their networks to meet a variety of use cases and should retain their ability to manage the allocation of network resources.** A flexible network should be encouraged over an overly-restrictive





regulatory of the logical architecture of the network so that **technological opportunities and innovation can be exploited and enjoyed**.

- **Any regulation** should be future proof and not tailored to address specific use cases, because all possible use cases are impossible to estimate and in general, technology will almost always develop faster than regulation or legislation.
- The **Regulator should not** develop a system of “**innovation by permission**” where players in the market feel they must share strategy and commercial planning for approval with regulators. The **worst-case** scenario would be if companies do not even begin to innovate with new partnerships or products due to uncertain and over-prescriptive regulation. **Virtualization of networks**, network slicing and other future technologies will become a standard way of providing mobile services and operators need predictability on the rules applied to their services.

Traffic management techniques are necessary and appropriate in a variety of operational, legal and commercial circumstances e.g.

- **Network integrity** - Protecting the network and customers from external threats, such as malware and denial-of-service attacks.
- **Child protection** - Applying content filters that limit access to age-inappropriate content.
- **Subscription-triggered services** - Taking the appropriate action when a customer exceeds the contractual data-usage allowance, or offering charging models that allow customers to choose the service or application they want.
- **Emergency calls** - Routing emergency call services.
- **Legal requirements- The Court orders for blocking etc.**
- **Delivery requirements** - Prioritising real-time services, such as voice calls, as well as taking into account the time sensitivities of services such as remote alarm monitoring

The mobile industry plays an important role as an enabler and creator of new digital applications, content and services that run over the internet including cloud computing, Internet of Things (IoT), Software as a Service (SaaS) and other such dynamically emerging services (AR/VR etc.). The continued emergence of new business models will preserve consumer choice and safeguard the internet as a rich source of innovation. This requires operators to manage services on their networks, in order to deal with dynamic traffic flows and congestion, and to tailor delivery to the specific individual service requirements, within the limits of finite capacity and network resources.

Therefore, looking at the varied needs of a telecom network, products and services a pre-defined list of Traffic Management Practices (TMPs) or even updating it from time to time will not be an efficient way. There may be genuine risks of operators, instead of designing and letting networks function in the most efficient, productive and user’s dynamic requirement orientation– would be hard pressed to operate it in compliance mode - in a straight-jacketed, uniform fashion leading to inefficiency.



*Q.2 Whether the impact of TMPs on a consumer's experience can be interpreted from its name and a short description about it or a detailed technical description would be required in an objective and unambiguous manner? In the case of a detailed technical description, what framework needs to be adopted by a Multi-Stakeholder Body to document this? Please suggest with justification.*

**GSMA's Comment:**

We note that the objective is sometimes lost due to too much focus on technical criteria, instead of facilitating innovation and the opportunities offered by networks for the benefit of citizens and businesses, while safeguarding competition. Indeed, regulators should interact only where there is a market failure, instead of focusing on isolated and prescribed set of technical parameters which may not necessarily reflect the market reality or existing consumer experience. The GSMA encourages the TRAI to consider the following:

- Any prescriptive and overly-technical limits / descriptions should be avoided as it can have unintended consequences on the emerging 5G ecosystem and use cases. When in 5G era, we are looking at dynamic demands like enabling industry 4.0 (where different stakeholders will have different requirements), AR, VR and network slicing; trying to be prescriptive on traffic management will stifle this innovation by placing restrictions on networks that are not reflective of changing market and technical structures. We therefore are of opinion that any technical prescription is not required, and it should be only brought-in if there is evidence that existing proportionate and transparent traffic management practices are diminishing the consumer experience and that there is a need to intervene with such specifications.
- An important clarification for consumers to be aware of is that advertised speed that is possible in the scope of specific contracts must not be confused with contractual agreed speed or speed that is usually available. Ensuring that customers get the speed they pay for, always has to refer to the contractually agreed speed, which will be an estimated range between minimum and maximum available speed.
- Any stakeholder body should be a forum through which information is disseminated and explanations are provided, rather than becoming an audit body.



*Q.3 What setup need to be established to detect violations of Net Neutral-ity, whether it should be crowd source based, sample field measurements, probe based, audit of processes carried out by access providers or combination of above? How to avoid false positives and false negative while collecting samples and interpreting Net Neutrality violations? Please suggest with justification.*

**GSMA's Comment:**

No specific set up should be required to detect any violations of Net Neutrality. At the moment, the technology landscape is undergoing a paradigm shift and continue to do so for next few years till we see maturity in IoT, AI, Big Data and mature deployment of 5G.

Any specifics to be spelt out even from the purpose of getting prepared for future or building capacity to detect such cases through a prism of standard format would result in a futile and shall remain a resource hungry exercise in the realm of industry verticals, 5G deployment for industry specific use cases, extensive cloud computing usage etc.

*Q.4 What should be the composition, functions, roles and responsibilities of Multi-stakeholder Body considering the decision of DoT that Multi-stakeholder body shall have an advisory role and formulation of TMPs and Monitoring & Enforcement (M&E) rest with DoT? Please suggest with justification.*

**GSMA's Comment:**

The GSMA believes that a new MSB does not align well with the *Minimum Government, Maximum Governance* theme of the Government that states that **"Trust is a public good that increases with use"**. The NDCP idea is also to further rationalize by reviewing definitions, frameworks etc. and any new body addition will add to compliance complexity.

Any issues on the matter can be looked-into by the TRAI/DoT on case to case basis –as it improves Trust between the Authority & Industry – and the more it is used- the better it gets.

Some countries have voluntary bodies which broadly represent the interest of consumers in matters relating to broadband (both fixed and mobile), but they do not have enforcement powers, nor are they tasked with technical monitoring and reporting on traffic management practices. We observe that globally, a majority of countries who enacted Net Neutrality principles have refrained from further intervention on the technical grounds like describing or monitoring TMPs of the operators. E.g. the stakeholders' body in the UK (The Broadband Stakeholders Group) is not a new body created to specifically look into the TMPs. Rather it is a joint-stakeholder body that closely works on various relevant industry issues. Furthermore, the UK telecommunications regulator, Ofcom, has taken a self-assessing approach to traffic management, and instead of auditing or scrutinizing the traffic of operators, mobile operators voluntarily publish their TMPs at a broad level and in a mutually-agreed, standardized format.



We note that the UK mobile network operators (MNO) do not publish (in any technical detail) the specific Traffic Management practices they utilise – they are broadly grouped into “Blocked”, “Slowed Down” and “Prioritised” categories on the fact sheet template but no MNO actually provides details on even these categories. Instead, most provide a high-level explanation of when TM practices, in general, may be needed (these are typically in the footnotes).

We believe that the current institutional ecosystem and frameworks of the TRAI, the Department of Telecoms, TDSAT, Consumer Forums, Competition Commission, Consumer Affairs Department etc. are wholly sufficient in this regard. Creating a new advisory body that requires further capacity building and then that reports to DoT adds to the organizational and decision making complexity for a subject that may not warrant immediate attention as it should be best when 5G is deployed and sufficient data consumption and maturity is reached

If at all, any case comes to the Department or should there be a prima facie evidence for suo moto action, such bodies are enough to investigate the matter within existing Institutional Framework which has already lot of compliances available for entities to follow.

*Q.5 Whether entry fee, recurring fee etc for membership need to be uniform for all members or these may be on the basis of different type or category of membership? What may be these categories? What policy may be adopted for initial set up of Multi-stakeholder Body. Please suggest with justification.*

AND

*Q.6 What mechanism may be prescribed to determine fee and other contributions from its members towards expenditure in a fair and non-discriminatory manner? Please suggest with justification.*

**GSMA’s Comment:**

An MSB specifically for TMP/ Net neutrality risks additional compliance costs and procedures for the Industry without any corresponding benefits to industry or consumers which are not being offered today. In our view self-regulation, and limited reporting (if at all) should be best left to the industry as market dynamics, competition - auto correct any deviation from principle.

Therefore, GSMA does not support MSB for TMP. However, industry may explore coming out with a broad self-regulating code / framework to bring more transparency and awareness.



*Q.7 What should be the guiding principles and structure of governance of Multi-stakeholder Body? What may be the roles and responsibilities of persons at different positions such as chairing the organisation or working groups, governing the functioning, steering the work etc. Please suggest with justification.*

**GSMA's Comment:**

In addition to our response to Q4 to Q6 above, the GSMA is of the view that such a Body is not required also because guiding principles in itself may change during the course of time. Technology and Communications is no more a matter of specific Industry or a specific class or category of consumer.

*Q.8 Any other issues which is relevant to this subject?*

**GSMA's Comment:**

While the Regulator highlights its concerns about wellbeing of the "Content Providers" as explicitly mentioned in the consultation paper, the telecom service providers are already subject to substantial amount of compliances and Regulations including that of net neutrality now. The GSMA believes that the Net Neutrality principles are sufficient at the moment. Since they are also incorporated in the License, any deviation can always be looked into on a case-to-case basis.

In future too if the Regulator has sufficient evidence of market failure on account of TMPs requiring intervention, it can revisit the need for establishing a MSB.

Traffic Management is nothing but a tool used to deliver best scenario based Quality of experience (QoE) to a user for which she/he has subscribed to a particular set of services with agreed aspects in contract sheet. With millions of apps, billion plus website and multiple categories emerging- it is again prudent to reiterate that it is a dynamic process. It is worth nothing that Government demand or a consumer demand changes as per context which has geography, location, time, weather, national emergency etc. as some of the pivotal dimensions.

Regulator should Invest resources in making people and ordinary citizens aware of the complexities of Traffic Management, How Internet Works, what citizens can expect when they subscribe to a particular service and what are the expected pit falls in serving them

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