

Regulating the Digital Revolution

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The Digital Revolution is often called as the Fourth Industrial Revolution, the first three being the Steam Engine, followed by the age of Science and Mass production, and computers. World over, the Digital Revolution is driving the socio-economic and technological growth of the human race. The revolution is driven by various factors like the availability of high-speed Internet, innovative products and services, the need for efficient management and distribution of resources both by the Government as well as private entities, the user's ubiquitous requirement of remaining connected at all times etc.

As stated in the TRAI's recommendation on "Privacy, Security and Ownership of the Data in the Telecom Sector"¹, "The eco-system used for delivery of digital services consists of multiple entities like Telecom Service Providers (TSPs),

Personal Devices (Mobile Handsets, Tablets, Personal Computers etc), M2M (Machine to Machine) Devices, Communication Networks (consisting of Base Trans Receiver Stations, Routers, Switches etc), Browsers, Operating Systems, Over The Top (OTT) service providers, Applications etc. It is estimated that the global volume of digital data created annually was 4.4 zettabytes in 2013 and this would reach 44 zettabytes by 2020². Further, it is expected that the number of devices connected to the IP Networks would be approximately three times the global population by 2021³". It would be pertinent to note that the mode of communication has transformed from purely Analog to Digital now and mobile communication has become an inseparable part of our lives.

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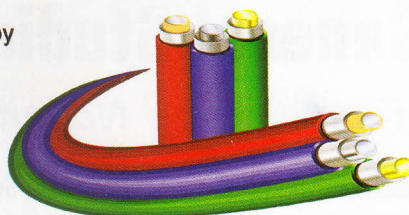
Challenges

During the past two decades, the world has witnessed an

BharatNet

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Connected
1,19,947
Gram Panchayats
(as on 3rd Nov, 2018)



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unprecedented growth in technology. The advancement in technology has, on the one hand, provided the consumers services and devices which were earlier perceived as fiction; and on the other posed new challenges in the regulatory environment. A major portion of the Applications and services that are being developed are based on the mobile connectivity, hence the role of Telecom Service providers as well as the Regulator becomes more and more challenging. The regulators have the onerous responsibility of maintaining a balance between encouraging innovation, protecting consumers, creating an environment for orderly growth of industry as well as address unintended consequences of disruptions.

The world is witnessing emerging technologies like Artificial Intelligence, Internet of Things (IoT), Machine Learning (ML), Machine to Machine (M2M) Communications, Big Data Analytics, Distributed Ledger Technologies(Block Chain) etc. Emergence of these technologies has opened new avenues and methods for the consumers to interact with each other. New technologies have also paved the way for new

businesses and the manner in which these new businesses are executed.

Emerging technologies, along with the fast pace of commercialization of these technologies, has broken the popular myth that the regulations can be made deliberately at a slower pace and would be in place unchanged for a long time. The Regulator today can no longer afford to be lagging in the technology development curve. The challenges faced by the

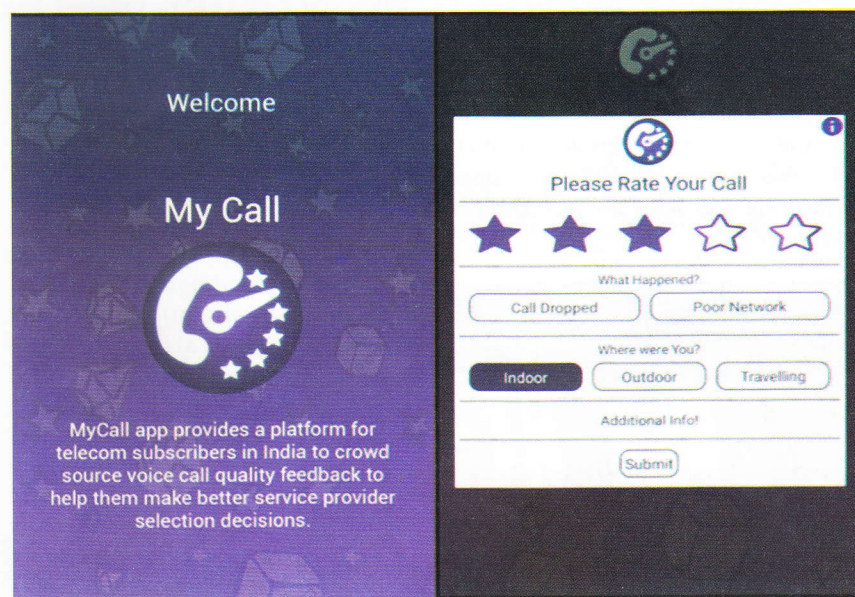
tradition regulation can be broadly classified into:

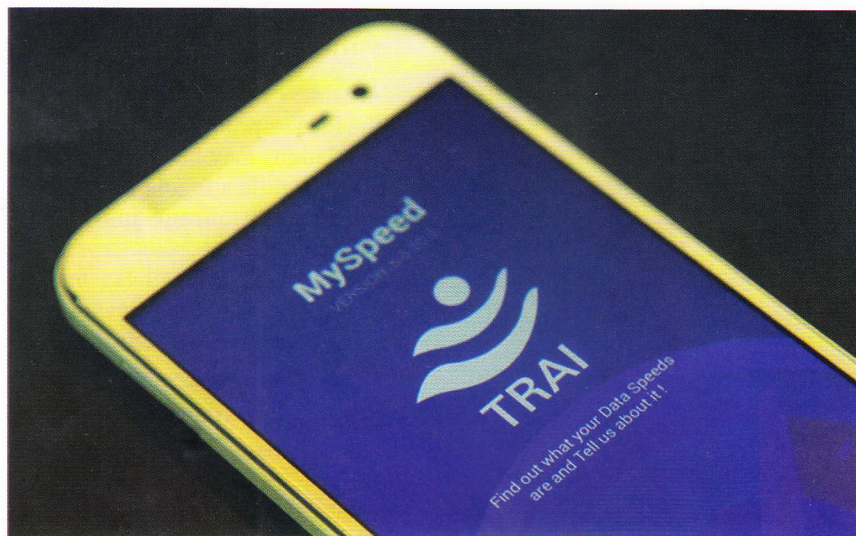
Business Challenges: These could be the Pacing problem i.e a slow pace of regulations may become irrelevant very soon while a regulation released early may discourage innovation. Another issue that is of importance is the disruptive business models wherein the new businesses may require intervention/regulation by multiple regulators.

Technological challenges: These are far too many and are dynamic in nature i.e issues related to Data, Digital Privacy and Security, Data Ownership, AI –based challenges etc.

One of the major challenges in the telecom sector today is to simultaneously regulate the legacy as well as the new digital networks. This requires framing of new set of regulations and frameworks that facilitate seamless co-existence as well as smooth migration.

India is the second largest market in the world. Though a large number of initiatives have been undertaken both by the Government as well as the private sector but still a large population remains devoid of connectivity to the internet. Spreading awareness as well as connecting every individual are keys to the socio-economic metamorphosis of our country.





As new business models and services emerge, government agencies are expected to create or modify regulations, enforce them and communicate the same to the environment at faster pace. The Regulator is not only entrusted with the responsibility to ensure the compatibility of the new technology with the legacy frameworks but also foster innovation on the other.

Based on the emerging technologies, a Regulator therefore may have to consider the following approaches while formulating the regulations today:

Regulations should be Adaptive: A rigid Regulatory framework may prove to be detrimental to innovation as well as the growth of industry. An adaptive regulatory regime would foster innovation, provide a platform for the industry to grow, enhance user satisfaction, provide consumer protection and help the government to regulate.

Use of Regulatory Sand-boxes: Impact assessment of regulation on the technologies may be studied before issuing the Regulations.

Collaborative Regulations: As brought out earlier, services and products today may require regulation by multiple Regulatory bodies; hence a collaborative Regulatory approach would have to be adopted.

A Regulator, therefore, has to be aware of the current state of regulations world over, know the right time to regulate, know the right approach to regulate and have an adaptive approach towards emerging technologies.

Experiences at TRAI:

World over, ICT Regulators have been keeping pace with the emerging technologies. Similarly, for regulating the digital revolution in telecom sector in India, TRAI has taken considerable steps in the past five years. We have issued recommendations to the Government on cloud computing, M2M communications, Net Neutrality, internet telephony, National Wi-Fi Grid using WANI architecture, and 'Privacy, Security, and Ownership of Data in Telecom Sector'. In order to protect the consumers' interests TRAI has

launched various apps like MySpeed app for data speed measurement, Mycall app to report voice call quality, and Do Not Disturb App for Crowdsourcing of data about offending messages and calls. Recently, TRAI has launched an online portal for presenting and comparing the tariffs offered by various service providers for telecommunication services. In the field of broadcasting and cable service also, TRAI has completely revamped the regulatory framework. The new framework would ensure effective choice to the consumers at affordable prices.

Conclusion:

The Telecom Sector is witnessing the biggest transformation in the past several decades, New technologies and services based on mobile connectivity, social media, data-analytics, cloud computing etc are being designed today. These technologies and services have blurred geographical boundaries, created exciting business models, created job opportunities, empowered the citizens and attracted world telecom leaders to India. TRAI has a very important role today in not only regulating the Digital revolution in the telecom sector but also be a front-runner in adaptively regulating emerging technologies.

Endnotes

1. <https://www.trai.gov.in/sites/default/files/RecommendationDataPrivacy16072018.pdf>
2. The Digital Universe of Opportunities: Rich Data and the Increasing Values of the Internet of Things', EMC Digital Universe with Research and Analysis by IDC (April 2014), available at: <https://www.emc.com/leadership/digital-universe/2014iview/executive-summary.html>
3. <https://www.cisco.com/c/en/us/solutions/collateral/service-provider/visual-networking-index-vni/mobile-white-paper-c11-520862.html>

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