ITU Regional Standardization Forum (RSF) on "Addressing Competition Issues in ICT Economy"
1 October 2019, Colombo, Sri Lanka

Session 4: Transforming Regulatory Regimes in New, Emerging and Converging Technological Scenario

Role of the Regulators

- Protect the interest of service providers,

- Protect the interest of consumers,

- Ensure the orderly growth of the sector,

- Identify issues arising from the changing techno-commercial scenario and take remedial or preventive measures,

What has changed ?

- Technological convergence,

- Integration of independent technologies to form a new outcome,

- Smart Phone- telephone+ computer + camera+ music player+ television (TV)+geolocating and navigation tool etc—into a single device,

- Technological convergence coupled with media convergence and network convergence makes policy and regulation even more complex

Key characteristics of convergent devices

- First, converged devices can execute multiple functions to serve blended purpose,

- Second, converged devices can collect and use data in various formats and employ machine learning techniques to deliver enhanced user experience,

- Third, converged devices are connected to a network directly and/or are interconnected with other devices to offer ubiquitous access to users

Key Challenges resulting out of technological convergence

- Regulatory jurisdiction

- Digital privacy, and

- Data security.

Regulatory jurisdiction

- Merger and integration of multiple technologies from distinct functional categories into one converged technology poses challenges to defining regulatory policies and responsibilities,

- Determination of oversight jurisdictions and regulatory authorities for converged technologies is not easy as the boundaries that once separated single-function technologies blend together,

- Defining policies that regulate technological converging industries may not be simple or straightforward due to blending boundaries of existing categories

Digital privacy

- Technological convergence leverages large volumes of data for improving the user experience by generating more tailored and anticipatory results,

- However, such data can potentially identify, locate, track and monitor an individual without the person's knowledge,

- Collection and use of personal and machine data also raises digital privacy concerns for consumers because a piece or aggregation of information could identify an individual or reveal patterns in one's activities,

- Potential for sale of personal data to third-party entities without an individual's informed consent. With advent of converged technologies , digital privacy issues will likely remain central.

Data security concerns

- Often associated with smart devices' convenient ubiquitous features that may double as vulnerabilities exploited by malicious actors,

- Data security, a component of cybersecurity, protects data from unauthorized access and use,

- Along with digital privacy, data security is a pertinent issue to technological convergence,

- As converged devices generate and consume large volumes of data, multiple data security concerns have emerged: potentially increased number of access points susceptible to cyberattacks, linkage to physical security, and theft of data, financial frauds etc.

Some other issues that are areas of concern for Policy and Regulation

- Spectrum management and licensing,
- Consumer protection,
- Digital inclusion,
- Promoting Innovation,
- Cross-border flow of data and OTTs
- Artificial Intelligence, Blockchain, M2M communication in IoT era and related issues-QOS, Tariffs, Competition, Regulation Vs Forbearance

Pace of change and uncertainty

- The illiterate of the 21st century will not be those who cannot read and write, but those who cannot learn, unlearn, and relearn. -Alvin Toffler
- Policymakers and regulators have therefore to learn, unlearn and relearn continuously at a pace and a scale hitherto never followed, otherwise they cannot remain efficient, effective and relevant

Science and Technology Foundation (left column, top to bottom):
Internet · Social · Mobile · Cloud · Big Data - Analytics

Innovation Accelerators:
3D Printing · Renewable Energy · Internet of Things · Cognitive Systems · Nanotechnology · Robotics · Blockchain · Genomics · Drones

Future Scenarios (bottom curve):
Smart Grid · Connected Car · Smart Homes · Artificial Narrow Intelligence · Smart Cities · Connected Healthcare · Next Generation Education · Sharing (Access) Economy · Automation of Everything · Cyberwar · Autonomous Vehicles · Healthy Life Extension · Energy Internet · Maker Economy · Money 2.0 · Circular Economy · Artificial General Intelligence · Institution 2.0 · Transport 2.0 · Logistics Internet · Empowerment Economy · Decentralization of Everything · Food 2.0 · Work 2.0 · Democracy 2.0 · Human-Machine Convergence · Human 2.0 · Artificial Super Intelligence · De-Extinction · Radical Life Extension

Emerging and Future Accelerators / central dark area:
Climate Change · Global Inequality · Reverse Brain Drain · Generation Z · Rising Energy Demand · Emerging Middle Class · Abundance · Generational Differences · Aging Population · Urbanization · Technological Unemployment · Increased Lifespans · Five generations of workers · Decline in Fertility Rates · Disability · Growing Need for Elder Care · Resource Scarcity · Ownership to access · Shifting Views of Retirement · Rise of the Crowd · The Rise of Independent Workers · The Changing Notion of Work · Millennial Focus on Purpose · Fall in Working Age Population · Population Growth · Power to the Individual · Poverty · Disease

Legend:
- Future Scenarios
- Emerging and Future Accelerators
- Innovation Accelerators
- Science and Technology Foundation

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"Our future is a race between the growing power of our technology and the wisdom with which we use it. Let's make sure that wisdom wins"

S. Hawking

Thank You