Discussions on Over-The-Top (OTT) in ITU-T SG3

Hye Jin Park
Vice-Chairman, ITU-T SG3RG-AO
ITU-T SG3 Mirror Committee, Korea (Rep. of)
Overview

I. The ICT Ecosystem and OTT Services
II. OTT Discussions in ITU-T SG3
III. Study on Economic Impacts of OTT
IV. ITU-T Recommendation on OTT
V. Future Work on OTT
I. The ICT Ecosystem and OTT Services
The ICT Ecosystem

- The emergence of smart media has been shifting the paradigm in the ICT ecosystem.
- Traditional services now integrated into internet based services, and OTT players became key players in the market.
What are OTT services?

• OTT services can be defined as any service provided over the internet that bypasses traditional operators’ distribution channel.
  – VoIP: Skype, Viber, etc.
  – SMS: WhatsApp, Kakao Talk, Line, Telegram, etc.
  – Apps: search portals, news portals, banking, weather, shopping, etc.
  – Cloud Services: Dropbox, Google Drive, Apple icloud, etc.
  – Internet Television (Video streaming): Netflix, Hulu, YouTube, Amazon Instant Video, etc.

Categorized based on the ICT Regulation Toolkit
Issues raised from OTT services

• OTT services transfer contents through the open internet and mobile network.
• The openness of internet and mobile network led to a makeover of the traditional distribution channels of contents.
• New competition environment is emerging and is leading to emergence of new issues.
  – Network neutrality
  – Platform neutrality
Issues raised from OTT services

• ITU-T SG3’s mandate: Tariff and accounting principles and international telecommunication/ICT economic and policy issues

• From ITU-T SG3’s perspective
  – Telecom operators’ revenue and investment
  – Innovation in ICT
  – Consumer benefits and protection
II. OTT Discussions in ITU-T SG3
Progress of OTT Work in ITU-T SG3

May 2014
- Establishment of the RG on Economic Impacts of OTTs
  - Objectives: To evaluate economic impact of OTTs on the development of telecom networks and services and come up with recommendation

Mar 2015
- Two work items were created (1. STUDY_OTT; 2. D.OTT*)
- Initiated a questionnaire survey to assist in the technical study on OTTs

Feb 2016
- “Study on the economic impact of OTTs”, a technical report draft was reviewed.
- A draft Recommendation on OTTs, D.OTT was developed.
- OTT questionnaire replies were reported.
- Two work items were created (1. D.OTTbypass; 2. D.OTTMNO**)
Progress of OTT Work in ITU-T SG3

- “Study on the economic impact of OTTs”, a technical report draft was agreed.
- A draft Recommendation on OTTs, D.OTT will be further refined at the upcoming Rapporteur Group meeting.
- A new work item was created. (D.ConsumerOTT*)

* Consumer Redress Mechanisms and Consumer Protection for OTTs
III. Study on Economic Impact of OTT

The Technical Report
Purpose and Structure of the Report

• Purpose
  – Understand what OTT services are and identify impacts, opportunities, and challenges

• Structure
  – What are OTT services?
  – Opportunities and impacts associated with OTT services
  – Policy challenges
  – Policy approaches attempted or taken in various parts of the world
  – Concluding remarks
What are OTT services?

• No single, universally accepted definition of OTT services
• Working definition of OTT service for this report
  – An online service that can be regarded as potentially substituting for traditional telecommunications and audio visual services such as voice telephony, SMS, video on demand and television.

Benefits of OTTs

- Driver of transformation of economies of both developed and developing countries
- Effects trickling down to small businesses and to individuals
- All services are online.
- Offer extensive capabilities that go well beyond traditional telephony and broadcasting
Impacts of OTTs

• On traditional service revenues
  – Decline in voice call revenue, especially in the international voice call sector
  – Decline in SMS revenue
  – Observed trends show substitution effects
Impacts of OTT

- On traditional service revenues
  - Increase revenues for mobile data services
  
  - E.g. In India, data usage increased from 49645 TB in Oct 2013 to 90267 TB in Dec 2014, showing a cumulative annual growth of 65.2%. Data revenue nearly doubled (TRAI)

Source: Analysys Mason, 2014

![Data Revenue Graph]

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Source: Analysys Mason, 2014
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Impacts of OTTs

• On infrastructure cost and investment
  – Lower incentive for telecom operators to make investments in the network infrastructure
    • Declining revenues would stop telecom operators invest in the network infrastructure.
    • Internet traffic growth drives unbounded costs while flat rate prices prevented network operators from charging to recover their costs.
  – Alternative assessment
    • Internet traffic growth no longer reflects explosive growth.
    • Relevant unit costs decline year over year (Moore’s Law) and offset any increase in traffic volume.
Impacts of OTTs

• On societal welfare
  – Consumers view **OTT as offering better price/performance than the services for which they substitute**. Usually less expensive than an equivalent service or offers better value overall.
  – Online services tend to **intensify competition and reduce the retail price**.
    • societal welfare = producer welfare + consumer welfare
    • Transfer of societal welfare from producer to consumers
    • Increased consumption due to price elasticity
  – Decrease in SMS/voice revenues compensated from data revenues (increase in no. of subscribers and traffic volume per subscriber)
# Opportunities and Challenges

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<th>Strengths</th>
<th>Weaknesses</th>
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<td>• Increasing <strong>speed, price-performance</strong>, and adoption of broadband services, enhanced price performance (Moore’s Law).</td>
<td>• Remaining limitations in fixed and mobile broadband coverage, adoption, and speed.</td>
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<td>• Increasing <strong>speed and capability of devices and services</strong>, enhanced price performance (Moore’s Law).</td>
<td>• <strong>Inconsistent global approaches</strong> to the scope of regulation, to jurisdiction, to specific regulatory rules, to privacy, to network security, and to taxation.</td>
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<td>• Increased capability of online platforms.</td>
<td>• <strong>Limited capacity to create or operate</strong> OTT services in many countries.</td>
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<td>• Growing network effects due to increased adoption.</td>
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<th>Threats</th>
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<td>• Gains in <strong>market efficiency</strong>.</td>
<td>• Possible <strong>negative impact</strong> on network operator revenues and profits, with corresponding adverse impact on taxes and on ability to invest.</td>
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<td>• Consequent <strong>gains in GDP</strong> and in (skilled) employment.</td>
<td>• <strong>Increased risk of privacy and security breaches.</strong></td>
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<td>• <strong>Economies of scale and scope.</strong></td>
<td>• Risk of access and service monopolisation.</td>
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<td>• <strong>Lower unit costs.</strong></td>
<td>• Risk that the “digital divide” between developed and developing countries worsens.</td>
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<td>• <strong>Lower transaction costs.</strong></td>
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<td>• <strong>Overall acceleration of business.</strong></td>
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<td>• <strong>Enhanced innovation.</strong></td>
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Policy Challenges

• Competitive neutrality ("level playing field")
• Possible need to authorize or license OTT services
• Challenges faced in determining country of jurisdiction
• Competition law and economics
• Threats to network operator revenues and profits
• Corresponding implications for investment in infrastructure
Policy Challenges

• Implications for Quality of Service
• Implications for consumer privacy
• Obligations for security and reliability of OTT services
• Possible measures to promote the use of OTT services

To resolve these challenges and establish a guidance to the membership, ITU-T SG3 developed D.OTT.
IV. ITU-T Recommendation on OTT

D.OTT
Draft Recommendation on OTT

• Creating a fair environment to encourage competition, innovation and investment in the digital economy
• Relationship between OTT and network operators
• Fostering innovation and investment
• Consumer protection and international collaboration
Draft Recommendation on OTT

• Definition of OTT
  – An over-the-top (OTT) is an application delivered over the public Internet that may potentially substitute for traditional international telecommunication services.

* The definition of OTT is a matter of national sovereignty and may vary among Member States.
Fair environment for competition, innovation, investment

- Member States should...
  - Develop measures with a view to promoting competition, encouraging innovation and investment in the international telecommunications ecosystem
  - Assess the economic, policy and consumer welfare impacts of OTT including the regulatory framework and economic incentives
  - Develop enabling policies and/or regulatory frameworks to foster fair competition between network operators and providers of OTT
  - Consider fundamental differences between traditional international telecom services and OTT
Relationship between OTT and network operators

• Member States should...
  – Consider inter-dependencies between operators and OTT providers
    • How consumer demand for OTT can affect increase in data demand and decrease in traditional service demand
  – Encourage cooperation between OTT and network operators
  – Stimulate innovation and investment in the development of telecom infrastructure
Fostering innovation and investment

• Member States should...
  – Foster entrepreneurship and innovation in OTT application and encourage sustainable infrastructure investments
  – In the spirit of service availability and affordability, foster enabling legal and regulatory environments and develop policies
    • fair, transparent, stable, predictable and non-discriminatory
    • promote competition, technological and service innovation
    • encourage private sector investment incentives
Fostering innovation and investment

- Member States should...
  - Participate and contribute to global standardization efforts to ensure open, interoperable, portable, secure, and affordable services for consumers
  - Consider challenges arise from exponential growth of OTT
  - Support for innovation, demand stimulation, industry collaboration, and public-private partnership
Consumer protection and international collaboration

• Member states and regulators should
  – Take appropriate measures to encourage all market participants to maintain the security of networks carrying data and help protect consumers of OTT

• Given the global nature of many OTT, collaboration across multiple Member States and Sector Members should be strongly encouraged.
V. Future Work on OTT
Future Work on OTT

• Development of Implementation Guidelines
• Study Work Items
  – D.OTTbypass: Telecom operators being left out of the value chain by their unaware subscribers
    • A call originating as a traditionally dialed voice call via the operator’s PSTN is taken on a detour and terminated to the OTT application on the called party’s smartphone
    • Deprives the receiving telecom operator from the termination fees; Growing source of losses for international inbound voice revenues
  – D.OTTMNO: Change of pricing structure with emergence of advanced network
    • From monthly charges based on access tech and download speeds (2G/GPRS) → capacity based bundles to special zero-rated pricing (LTE/4G)
    • Raises multi-faceted regulatory challenges between promoting the immediate access benefits of the zero rated pricing against probable anti-competition effects
Future Work on OTT

• Study Work Items
  – D.ConsumerOTT: Consider and address challenges arising by the emergence of OTTs, especially from a regulatory perspective
    • Emergence of OTT led to a number of threats to traditional telecoms, and there have been debates worldwide whether OTT should be regulated or not.
    • Some of the reasons to regulate OTT include the importance of consumer protection and security and absence/lengthy consumer redress mechanisms for international cases.
    • Objective is to study how Member States can address issues of customer redress mechanism, security and consumer data protection without stifling innovation, while promoting fair competition.
Thank you for listening.

Questions?

h.j.park006@gmail.com