

ITU-D Question 4/1

Economic policies and methods of determining the costs of services related to national telecommunication/information and communication technology networks, including next-generation networks

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4/1,

ITU-D SG1 and SG2 Questions under study (2018-2021)

SG1: Enabling environment for the development of telecommunications/ICTs

Study Question	Relevant SDG WSIS Action Line
Q1/1: Strategies and policies for the deployment of broadband in developing countries	8 ECONOMIC AND ECONOMIC GROWTH, 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE, 11 SUSTAINABLE CITIES AND COMMUNITIES, ACTION LINE C2, ACTION LINE C3
Q2/1: Strategies, policies, regulations and methods of migration and adoption of digital broadcasting and implementation of new services	8 ECONOMIC AND ECONOMIC GROWTH, 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE, ACTION LINE C2
Q3/1: Emerging technologies, including cloud computing, m-services, and OTTs: Challenges and opportunities, economic and policy impact for developing countries	4 QUALITY EDUCATION, 8 ECONOMIC AND ECONOMIC GROWTH, 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE, 12 RESPONSIBLE CONSUMPTION AND PRODUCTION, ACTION LINE C2, ACTION LINE C3, ACTION LINE C7
Q4/1: Economic policies and methods of determining the costs of services related to national telecommunication/ICT networks	4 QUALITY EDUCATION, 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE, 11 SUSTAINABLE CITIES AND COMMUNITIES, ACTION LINE C6
Q5/1: Telecommunications/ICTs for rural and remote area	4 QUALITY EDUCATION, 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE, 11 SUSTAINABLE CITIES AND COMMUNITIES, ACTION LINE C2, ACTION LINE C6
Q6/1: Consumer information, protection and rights: Laws, regulation, economic bases, consumer networks	4 QUALITY EDUCATION, 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE, 12 RESPONSIBLE CONSUMPTION AND PRODUCTION, ACTION LINE C3, ACTION LINE C6
Q7/1: Access to telecommunication/ICT services by persons with disabilities and other persons with specific needs	8 ECONOMIC AND ECONOMIC GROWTH, 10 REDUCED INEQUALITIES, ACTION LINE C3, ACTION LINE C4, ACTION LINE C7

SG2: ICT services and applications for the promotion of sustainable development

Study Question	Relevant SDG WSIS Action Line
Q1/2: Creating smart cities and society: Employing ICTs for sustainable social and economic development	2 ZERO HUNGER, 4 QUALITY EDUCATION, 7 AFFORDABLE AND CLEAN ENERGY, 11 SUSTAINABLE CITIES AND COMMUNITIES, ACTION LINE C7
Q2/2: Telecommunications/ICTs for e-health	3 GOOD HEALTH AND WELL-BEING, 6 CLEAN WATER AND SANITATION, ACTION LINE C2, ACTION LINE C7
Q3/2: Securing information and communication networks: Best practices for developing a culture of cybersecurity	4 QUALITY EDUCATION, 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE, 11 SUSTAINABLE CITIES AND COMMUNITIES, ACTION LINE C5
Q4/2: Assistance to developing countries for implementing conformance and interoperability (C&I) programmes and combating counterfeit ICT equipment and theft of mobile devices	8 ECONOMIC AND ECONOMIC GROWTH, 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE, 11 SUSTAINABLE CITIES AND COMMUNITIES, ACTION LINE C2
Q5/2: Utilizing telecommunications/ICTs for disaster risk reduction and management	11 SUSTAINABLE CITIES AND COMMUNITIES, 13 CLIMATE ACTION, ACTION LINE C2, ACTION LINE C7
Q6/2: ICT and the environment	11 SUSTAINABLE CITIES AND COMMUNITIES, ACTION LINE C7
Q7/2: Strategies and policies concerning human exposure to electromagnetic fields	3 GOOD HEALTH AND WELL-BEING, 11 SUSTAINABLE CITIES AND COMMUNITIES, ACTION LINE C2

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Study Group 1 Questions

- Question 1/1: Strategies and policies for the deployment of broadband in developing countries
- Question 2/1: Strategies, policies, regulations and methods of migration to and adoption of digital broadcasting and implementation of new services
- Question 3/1: Emerging technologies, including cloud computing, m-services and OTTs: Challenges and opportunities, economic and policy impact for developing countries
- **Question 4/1: Economic policies and methods of determining the costs of services related to national telecommunication/information and communication technology networks, including next-generation networks**
- Question 5/1: Telecommunications/information and communication technologies for rural and remote areas
- Question 6/1: Consumer information, protection and rights: Laws, regulation, economic bases, consumer networks
- Question 7/1: Access to telecommunication/information and communication technology services by persons with disabilities and other persons with specific needs

Study period 2018-2021 (List of topics)

	Description	Relationship
T1	New charging methods (or models, if applicable) for services provided over NGN networks, including Methods for determining the costs of whole sale services	in response to ITU-D Objective 2, WTDC Resolution 9
T2	Different models for infrastructure sharing, including through commercially negotiated terms	in response to ITU-D Objective 2, WTDC Resolution 20, WTDC Resolution 23
T3	Consumer price evolution and impact on ICT service usage, innovation, investment and operator revenues	in response to ITU-D Objective 2, WTDC Resolution 23
T4	Trends in the development of virtual mobile operators and their regulatory framework	in response to ITU-D Objective 2, WTDC Resolution 23

Question 4/1 Target Audience

Target audience	Developed countries	Developing countries
Telecom policy-makers	Yes	Yes
Telecom regulators	Yes	Yes
Service providers/operators	Yes	Yes
Manufactures	Yes	Yes
ITU-D programme	Yes	Yes

Question 4/1 Management team

Rapporteur:

Mr Arseny PLOSSKY (Russian Federation)

Vice-Rapporteurs:

Mr Mohammed ABDULKADHIM ALI (Iraq)

Mr Haider Abd ALHASSAN YAHIA (Iraq)

Mr Wesam M. SEDIK (Egypt)

Mr Emanuele GIOVANNETTI (Anglia Ruskin University)

Mr Rafael GONZALEZ-GALARRETA (Axon Partners Group Consulting)

Mr Ugur KAYDAN (Turkey)

Mr Ibrahima KONE (Mali)

Mr Talent MUNYARADZI (Zimbabwe)

Mr Huguens PREVILON (Haiti)

Ms Gevher Nesibe TURAL TOK (Türk Telekom)

BDT Focal Point:

Ms Carmen PRADO-WAGNER

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Chapter 1: New charging methods (or models, if applicable) for services provided over NGN networks

1.1 Methods for determining the costs of wholesale/advanced services

1.1.1. Impacts on the provision of retail services

1.1.2 Impact on the provision of wholesale services

1.2. Pricing and economic issue related to Significant Market Power (SMP) – national aspects

1.2.1. Retail level

1.2.2 Wholesale level

1.3. Different models for planning NGN networks

1.4. Revenue assurance methods

1.5. Country experience and case studies

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Chapter 2: Different models for infrastructure sharing, including through commercially negotiated terms

2.1. Different types/models for infrastructure sharing (passive, active)

2.1.1. On what level of network infrastructure sharing is possible (regional, national, municipal, local)

2.2 Regulatory frameworks for infrastructure sharing

2.3. Commercial terms and conditions for infrastructure sharing

2.3.1 What type/models of infrastructure could be a matter for release from regulation to negotiate reasonable commercial terms and all cooperative terms

2.4. Spectrum sharing framework within infrastructure sharing

2.5. The impact of infrastructure sharing on:

2.5.1. Investment cost

2.5.1.1. Impact on Capital Expenses (CAPEX)

2.5.1.2 Impact on Operation Expenses (OPEX)

2.5.2. Provision of telecommunication/ICT services

2.5.3. Market competition, including local loop unbundling

2.6. The impact of infrastructure and spectrum sharing on prices to consumers

2.7. Country experience and case studies

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Chapter 3: Consumer price evolution and impact on ICT service usage, innovation, investment and operator revenues

3.1. Impact of bundled ICT services on Average Revenue per User (ARPU) in ICT (“Zero rating”)

3.2. ICT price baskets

3.3. New business models for provisioning of accessible and affordable ICT services to achieve Sustainable Development Goals (SDGs) and WSIS Action Lines (WSIS-AL)

3.4. Methods to encourage adoption and use of advanced ICT services

3.5. Trends in prices of telecommunication/ICT services

3.5.1. Impact of international mobile roaming on prices of ICT services on national level

3.5.2. Impact of licensing regimes on prices of ICT services on national level

3.5.3. Impact of IXP implementation on prices of ICT services on national level

3.6. Country experience and case studies

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Chapter 4: Trends in the development of mobile virtual network operators (MVNO) and their regulatory framework

4.1. Models of Mobile Virtual Network Operators

4.1.1. MNO – Mobile Network Operator

4.1.2. MVNO – Mobile Virtual Network Operator

4.1.3. MVNE – Mobile Virtual Network Enabler

4.1.4. MVNA – Mobile Virtual Network Aggregator

4.2. Regulatory framework in the field of MVNO

4.3. Commercial agreements in the field MVNO

4.4. Impacts of MVNO on market competition

4.5. Country experience and case studies

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Chapter 5: Best practices guidelines

5.1. Promoting appropriate infrastructure sharing

5.2. Encouraging price/tariff reduction to consumers through competition

5.3. Stimulating access to and use of these services

Chapter 6: [Revision of Recommendations D.15 and D.16]

Chapter 7: Lessons learned from workshop/s

Chapter 8: Conclusion

Question 4/1 Chapter editors

- **Chapter 1: New charging methods (or models, if applicable) for services provided over NGN networks**
(Chapter editors: Mr Rafael Gonzalez-Galarreta / Mr Talent Munyaradzi)
- **Chapter 2: Different models for infrastructure sharing, including through commercially negotiated terms**
(Chapter editors: Mr Arseny Plossky / Mr Talent Munyaradzi)
- **Chapter 3: Consumer price evolution and impact on ICT service usage, innovation, investment and operator revenues**
(Chapter editors: Mr Ibrahima Kone/Mr Emanuele Giovannetti)
- **Chapter 4: Trends in the development of mobile virtual network operators (MVNO) and their regulatory framework**
(Chapter editor: Mr Arseny Plossky)
- **Chapter 5: Best practices guidelines**
(Chapter editor: Mr Emanuele Giovannetti)
- **Chapter 6: [Revision of Recommendations D.15 and D.16]**
(Chapter editor: Mr Arseny Plossky)

Collaboration with other sectors (ITU-R)

ITU-R Study Group 1 *Spectrum Management*

ITU-R Working Party 1B *Spectrum management methodologies
and economic strategies*

- ITU-R Handbook on National Spectrum Management. Geneva, 2015. <http://www.itu.int/pub/R-HDB-21>
- Report ITU-R SM.2012. Economic aspects of spectrum management. Geneva, 2016. <http://www.itu.int/pub/R-REP-SM.2012>
- Report ITU-R SM.2404. Regulatory tools to support enhanced shared use of the spectrum. Geneva, 2017. <https://www.itu.int/pub/R-REP-SM.2404>

Collaboration with other sectors (ITU-T)

ITU-T Study Group 3 *Tariff and accounting principles and international telecommunication/ICT economic and policy issues*

- Recommendation ITU-T D.000. Terms and definitions for the D-series Recommendations. Geneva, 2010. <https://www.itu.int/ITU-T/recommendations/rec.aspx?rec=10437>
- Recommendation ITU-T D.261. Regulatory principles for market definition and identification of operators with significant market power - SMP. Geneva, 2016. <https://www.itu.int/ITU-T/recommendations/rec.aspx?rec=12829>
- Recommendation ITU-T D.271. Charging and accounting principles for NGN. Geneva, 2016. <https://www.itu.int/ITU-T/recommendations/rec.aspx?rec=12830>
- Recommendation ITU-T D Suppl. 1. Cost and tariff study method. Geneva, 1988. <https://www.itu.int/ITU-T/recommendations/rec.aspx?rec=1>
- Recommendation ITU-T D Suppl. 3. Handbook on the methodology for determining costs and establishing national tariffs. Geneva, 1993. <https://www.itu.int/ITU-T/recommendations/rec.aspx?rec=3662>

Overview on last Rapporteur Group meetings for Q4/1 (25-26) September 2018

[14:40 - 16:00] Session1: General economic issues of modern telecommunication/ICT markets

☒ **Moderator: Mr Wesam M. Sedik**, NTRA, Egypt and Vice-Rapporteur for ITU-D Study Group 1 Question 4/1

☒ Economic and regulatory issues in the era of free services. **Ms Archana G. Gulati**, Department of Telecommunications, Ministry of Communications, India

☒ Telecommunication market in depression: Is there a solution? **Mr Papa Gorgui Touré**, Tactikom-Africa (Senegal)

☒ Setting the right goals to achieve economic-effective national program on ICT development. **Mr Arseny Plossky**, Radio Research & Development Institute (NIIR), Russian Federation

☒ How spectrum and competition policy will drive the future of the mobile industry. **Mr Pau Castells**, GSMA

Q&A and interactive discussion

[16:15 - 17:15] Session2: Economic issues of modern telecommunication/ICT markets from operators' view

☒ **Moderator: Mr Talent Munyaradzi**, Postal and Telecommunications Regulatory Authority of Zimbabwe (PORTAZ) (Zimbabwe), Vice-Rapporteur for ITU-D Study Group 1 Question 4/1

☒ ICT Platforms and infrastructure sharing: focusing on the new economic challenges linked to externalities and switching costs. **Mr Emanuele Giovannetti**, Anglia Ruskin University and University of Cambridge (United Kingdom)

☒ The impact of IXPs on lowering the costs of international bandwidth. **Mr Luc Servais Missidimbazi**, Agence de Régulation des Postes et des Communications Electroniques (ARPCE), Congo

☒ Mobile money in Paraguay: An experience of collaborative regulation. **Mr Victor Martinez**, National Telecommunication Commission/Comisión Nacional de Telecomunicaciones (CONATEL) (Paraguay)

☒ Structuring economic policies for the development of the digital economy in Côte d'Ivoire. **Mr Antony Adopo**, Autorité de Régulation des Télécommunications/TIC de Côte d'Ivoire (ARTCI)(Côte d'Ivoire)

Q&A and interactive discussio

Overview on last Rapporteur Group meetings for Q4/1 (25-26) September 2018

Document reference	Title of Contribution	Source
SG1RGQ/14 (Rev.1) + Annex	Infrastructure Sharing data analysis	BDT focal Point
SG1RGQ/56-E	GSR-18 Best Practices Guidelines on New regulatory frontiers to achieve digital transformation	BDT focal Point
SG1RGQ/67 + Annex	the results from the Regional Seminar for Europe and CIS on "Spectrum Management and Broadcasting	BDT focal Point
SG1RGQ/74-E	Setting the scene for 5G: Opportunities & Challenges	BDT focal Point
SG1RGQ/TD/7-E	ITU Regional Economic Dialogue on Telecommunications/ICTs for Latin America and the Caribbean (RED) – Outcome Report on the ITU-D Study Groups related Experts' Knowledge Exchange meeting	Rapporteur
SG1RGQ/TD/3-E	the results from the ITU Capacity Building Program on Quad-play: Costing and Pricing of Infrastructure Access for Arab Region	BDT focal Point
SG1RGQ/59	Strategies and policies for a regulatory environment conducive to the development of the electronic communications market.	Tactikom-Africa
SG1RGQ/60	Cost calculation: from economic modeling to technical accounting simulation	Tactikom-Africa
SG1RGQ/68-E	Different types and benefits of infrastructure sharing	Egypt
SG1RGQ/81	Modern approaches to design the telecommunication services tariffs in the Russian Federation	Russia
SG1RGQ/89-E	List of ITU-R/ITU-T publications on issues of mutual interest within the scope and mandate of Question 4/1	Rapporteur
1/REP/4 + Annex	Brief description of preliminary Table of Contents of Question 4/1 Report	Rapporteur

Remarks on regional economic dialogue of Latin America.

- **Session 1.** Regulatory and economic approaches in the digital ecosystem – toward the Sustainable Development Goals (SDG);
- **Session 2:** Economic and financial issues in a converged broadband environment, including the sub-sessions on a) Significant Market Power (SMP) and dominance, b) Advances of regulatory costing and pricing in the digital ecosystem, and c) Country Experiences: Tariff policies and costing methodologies in the digital ecosystem;
- **Session 3:** Challenges in the digital ecosystem, particularly the sub-session on Regulatory tools that impact the development and sharing of infrastructure;
- **Session 4:** Stimulating innovation in the digital ecosystem, particularly the sub-session on Preparing the regulatory landscape for future technologies, services and business models;
- **Session 5:** Bringing the future closer.
- **Question 4/1 ITU-D experts' knowledge exchange meeting**

Question 4/1 meeting schedule

Usual practice

- Question 4/1 meeting during the meeting of ITU-D Study Group 1 (once per year, half-day)
- Question 4/1 meeting during the set of ITU-D Study Group 1 Rapporteur Group meetings (once per year, one and a half day)
- Question 4/1 Management team e-meetings (2-4 times per year by Conference call)

Major milestones for the 2018-21 study period

Main meetings		Main deliverables and progress reports
First SG1 and SG2 meetings	30 April – 11 May 2018	Appoint management team members, identify experts, distribute tasks, agree on work plans and methods of action, review initial contributions, reply to liaison statements received. Ensure that the team has a good understanding of tools and working methods to conduct the work.
Rapporteur Group meetings	17 September – 12 October 2018	Review tables of content for Question deliverables, call for and review of detailed contributions, draft surveys. Case studies on the topics under study are appreciated. Prepare output reports to be put forward for approval at the annual meetings.
Second SG1 and SG2 meetings	18 – 29 March 2019	Present progress reports, approve tables of content, first outline of report, approve and launch of surveys (if applicable). Annual progress reports and approval of annual deliverables and reports .
Rapporteur Group meetings	23 September – 18 October 2019	Review contributions and input received through surveys, etc., chapter specific drafting/brainstorming groups. Case studies on the topics under study are appreciated. Prepare output reports to be put forward for approval at the annual meetings.
Third SG1 and SG2 meetings	17 – 28 February 2020	Present progress reports, review draft reports, guidelines, Recommendations, identify/ discuss next steps to complete work on time and how to overcome challenges encountered. Initial discussion on future study Questions. Annual progress reports and approval of annual deliverables and reports .
Rapporteur Group meetings	21 September – 16 October 2020	Finalize reports, finalize draft guidelines and Recommendations, propose/discuss possible study topics for the next period.
Fourth SG1 and SG2 meetings	15 – 26 March 2021	Fine-tune and approve reports, guidelines and Recommendations. Propose/discuss possible study topics for the next period. Agreement on deliverables to WTDC-21.
WTDC	Q4 2021	Study Group 1 and 2 Chairmen present results and deliverables to WTDC.

Upcoming



It is all about exchange experience



Thank you