

# 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

ITU Policy and Economics Colloquium (IPEC-20),  
5-7 October, 2020

## Study period 2014-2017 topics

Study period 2014-2017 Question 4/1 focused on various topics such as new charging methods for services provided over NGN networks, infrastructure-sharing models, consumer price evolution and impact on ICT service usage, methods of determining the cost of licences for the operation of networks and/or the provision of telecommunication services and regulatory accounting in an NGN environment

# Study period 2018-2021 topics

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

1.1) Methods for determining the costs of wholesale services.

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

2.1) For what type of infrastructure (or facilities) the provider party is free to negotiate reasonable commercial terms and conditions with a requesting party.

2.2) The impact of infrastructure sharing on investment cost, local loop unbundling, provision of telecommunication/ICT services, competition and prices to consumers: case studies with quantitative analysis.

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

3.1) New and innovative business models for services deployed in an NGN environment, including methods encouraging the adoption and use of ICT services.

3.2) Trends in prices of telecommunication/ICT services, including international mobile roaming.

4) Trends in the development of virtual mobile operators and their regulatory framework.

## Study period 2018-2021 (List of tasks)

	<b>Description</b>	<b>Relationship</b>
<b>T1</b>	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
<b>T2</b>	Different models for infrastructure sharing, including through commercially negotiated terms	in response to ITU-D Objective 2, WTDC Resolution 20, WTDC Resolution 23
<b>T3</b>	Consumer price evolution and impact on ICT service usage, innovation, investment and operator revenues	in response to ITU-D Objective 2, WTDC Resolution 23
<b>T4</b>	Trends in the development of virtual mobile operators and their regulatory framework	in response to ITU-D Objective 2, WTDC Resolution 23

## 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>

# Question 4/1 Final Report Structure

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

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

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

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

Chapter 5 – Best practices guidelines

Annexes

*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

1.2 Significant Market Power (SMP) – national aspects

1.3 Different models for planning NGN networks

1.4 Country experience and case studies (*Spain, Turkey, Burkina Faso, Gambia, Paraguay, Brazil*)



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

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

2.2 Regulatory frameworks for infrastructure sharing

2.3 Commercial terms and conditions for infrastructure sharing

2.4 Infrastructure sharing consideration related to transition for 5G

2.5 Spectrum sharing framework within infrastructure sharing

2.6 The impact of infrastructure sharing

2.7 Country experience and case studies (Turkey, Brazil, Egypt)

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

3.1 The impact of infrastructure and spectrum sharing on prices to consumers

3.2 Impact of bundled telecommunication/ICT services on Average Revenue Per User (ARPU) (“Zero rating”)

3.3 ICT price baskets

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

3.5 Methods to encourage adoption and use of advanced ICT services

3.6 Trends in prices of telecommunication/ICT services

3.7 Country experience and case studies (Turkey, Russian Federation)

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

- 4.1 Models of Mobile Virtual Network Operators
- 4.2 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 (Senegal)

# Question 4/1 Final Report Chapters 5 and 6

## *Chapter 5 Best practices guidelines*

5.1 Promoting appropriate infrastructure sharing

5.2 Determine appropriate wholesale charges

## *Chapter 6 Conclusions*

ITU-D Study period 2018-2021 expressed the continuous importance of economic aspects consideration in the national telecommunications/ICT. The appearance of new types of telecommunication businesses like MVNO and convergence of traditional ones led to necessity for regulators and operators to adopt their policies and strategies to this new digital reality.

Finding the suitable cost and governance models and using the relevant regulatory tools like infrastructure sharing should be the main goals of NRAs to help their national markets thrive, as shown in contributions received from both NRAs and operators and considered by Q 4/1 Rapporteur group for this study period. However, at the same time, further global forces pushing towards increased digitalization, national economic and global emergencies, like COVID-19 pandemic, leave many new issues that require additional study and investigation for the next ITU-D study period.

# Question 4/1 Final Report Annexes



Annex 1 Regulation of interconnection charges in Paraguay

Annex 2 Infrastructure Cost Sharing at Internet Exchange Points (IXPs)

Annex 3 Detailed statistics about methods used by NRAs for determining the cost of wholesale services

Annex 4 Social tariffs design in Russian Federation

Annex 5 Relevant definitions for the ICT price baskets

Annex 6 Examples of use of IXPs to fulfil WSIS Action Lines

Annex 7 ITU-D Study group events on the COVID-19 Pandemic related to Question 4/1

# 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 Emanuele GIOVANNETTI (Anglia Ruskin University)

Mr Jorge MARTINEZ MORANDO (Axon Partners Group)

Mr Ugur KAYDAN (Turkey)

Ms Gevher Nesibe TURAL TOK (Türk Telekom)

Mr Ibrahima KONE (Mali)

Mr Talent MUNYARADZI (Zimbabwe)

Mr Huguens PREVILON (Haiti)

Mr Wesam M. SEDIK (Egypt)

Ms Gillucia RAFALIMANANA (Madagascar)

## Active collaborator:

Ms Archana GULATI (India)

## BDT Focal Point:

Ms Carmen PRADO-WAGNER

Thank you very much!!!