

MOD

QUESTION 4/1

Economic aspects of national telecommunications/ICTs**1 Statement of the situation or problem**

As recognized in the Final Reports on Question 4/1, consideration of economic aspects of national telecommunications/ICTs continues to be important.

With the emergence of new types of telecommunication enterprise, such as mobile virtual network operators (MVNOs), tower companies and capacity wholesale operators, and the convergence of traditional telecom businesses, regulators and operators need to adapt their policies and strategies to this new digital reality. Finding suitable authorizations, cost models and business models and using relevant policy and regulatory tools such as infrastructure-sharing can be considered by national regulatory authorities (NRAs) in order to help their national markets thrive, as shown in contributions received from NRAs, policy-makers and operators alike which were considered by the Rapporteur Group for Question 4/1 in the most recent study period.

At the same time, further global forces pushing towards increased digitalization, as well as national economic and global emergencies like the coronavirus disease (COVID-19) pandemic, are opening many new relevant issues that call for additional study and investigation in the next ITU-D study period.

Expansion of the number of topics stems from the need to divide up the work on final reports on Question 4/1. Thus, the topics which will continue from the ITU-D study periods 2018-2021 and 2022-2025 could be reviewed in the scope of revision of the Final Report on Question 4/1 for that study period, whereas new topics could be considered under the Final Report on the new Question 4/1 for the 2026-2029 study period.

2 Question or issue for study**2.1 Continuing topics from previous study period with some expansion**

The Question will continue to cover the following main topics from national perspectives for possible revision of the Final Reports of Question 4/1 for the previous ITU-D study periods starting from 2018 onwards:

- 1) New charging methods (or models, if applicable) for services provided over NGNs, including cost-modelling methods.
- 2) The impact of infrastructure-sharing (local loop unbundling, tower companies, etc.) on investment cost, 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.
- 4) Trends in the development of virtual mobile operators and their regulatory framework.
- 5) Impact of new converging ICTs on cost-modelling strategies traditionally carried out by stakeholders constituting the ICT networked value chain (e.g. telecom operators, over-the-top, digital service providers, etc.) (in possible collaboration with Question 2/2).
 - 5.1.1) The role and design of new tariffs for convergent networks/services (e.g. bundling).
 - 5.1.2) The role and impact of tower companies as new entrants for a converging telecommunication/ICT market.
- 6) New types and modes of investment in telecommunications/ICTs, e.g., blended investment and crowdfunding.
- 7) Analysis of case studies on the economic contribution of digital telecommunication/ICT technologies and services to the national economy and the country's GDP.
- 8) Economic incentives and mechanisms for bridging the digital divide to increase the accessibility, availability and affordability of telecommunications/ICTs (in collaboration with Q4/2 on devices and with Q5/1 on accessibility).
- 9) Economic aspects/implications of digital transformation.
- 10) The economic value of usage of personally identifiable information (PII) (in possible collaboration with Questions 5/1 and 3/2).
- 11) Impact on innovation and productivity and other national economic aspects of digital financial inclusion.

2.2 New topics for next study period

The Question will cover the following main topics from a national:

- 1) The economic impact of new and emerging telecommunication/ICT services and technologies, including applications of AI and metaverse (in collaboration with Question 5/2).
- 2) National aspects of spectrum valuation.
- 3) Case studies on how telecommunication/ICT services contribute to social return on investment.
- 4) Case studies on mobile money.

- 5) Case studies on the impact of taxes on telecommunication/ICT services and devices.
- 6) Economic analysis of consumer choice in the telecommunication/ICT market (in collaboration with Question 5/1).

3 Expected output

- a) Revision of the Final Report for Question 4/1 for the ITU-D study periods 2018-2021 and 2022-2025 on the topics set out in § 2.1, as appropriate.
- b) Revision of the Question 4/1 Guidelines on cost modelling, as appropriate.
- c) Final Report for new Question 4/1 and other deliverables for the ITU-D study period 2026-2029, covering one/some/all of proposed new topics set out in § 2.2.
- d) New Question 4/1 Guidelines and other output documents on the topics set out in §§ 2.1-2.2, as appropriate.
- e) Joint deliverables with other ITU-D Questions on the topics set out in § 2, as appropriate.
- f) Inputs for ITU Regional Economic Dialogues, as appropriate.
- g) Inputs for ITU Tariff Policies Survey, as appropriate.

4 Timing

Annual progress reports will be presented to Study Group 1 in 2027, 2028 and 2029. Deliverables identified in § 3 could be sent to Study Group 1 for approval when ready without waiting for the end of study period.

5 Proposers/sponsors

ITU-D statement proposed the continuation of this Question as modified herein.

6 Sources of input

The major source of input will be the experiences of Member States and Sector Members on economic aspects on national telecommunications/ICTs. Contributions from Member States and Sector Members will be essential to the successful study of the issue.

Interviews, existing reports, materials from relevant ITU events, particularly, ITU Regional Economic Dialogues, and surveys should also be used to gather data and information for expected outputs of Question. Material from regional telecommunication organizations, telecommunication research centres, manufacturers and working groups should also be used, in order to avoid duplication of work.

Contributions are expected from Member States, Sector Members, Associates and Academia, from ITU-D study groups and from relevant ITU Radiocommunication Sector (ITU-R) and ITU Telecommunication Standardization Sector (ITU-T) study groups and working parties, in particular ITU-T Study Group 3 and ITU-R Working party 1B, and other stakeholders.

7 Target audience

All the target audiences mentioned below, with particular attention to the needs of developing countries¹.

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

a) Target audience – Who specifically will use the output

All national telecom policy-makers, regulators, service providers and operators, especially those in developing countries, as well as regional and international organizations.

b) Proposed methods for implementation of the results

The results of the Question are to be distributed, including through ITU regional offices, through ITU-D interim reports, final reports and other relevant deliverables. This will provide a means for the audience to have periodic updates of the work carried out and to provide input and/or seek clarification/more information from ITU-D Study Group 1 should they need it.

8 Proposed methods of handling the Question or issue

Electronic distribution of the reports and guidelines to all Member States, Sector Members and their respective NRAs, and ITU regional offices.

Distribution of the report and guidelines at the Global Symposium for Regulators (GSR), ITU Regional Economic Dialogues and relevant Telecommunication Development Bureau (BDT), Radiocommunication Bureau (BR) and Telecommunication Standardization Bureau (TSB) seminars.

¹ These include the least developed countries, small island developing states, landlocked developing countries and countries with economies in transition.

How?

- 1) Within a study group:
 - Question (over a multi-year study period) ☒
- 2) Within regular BDT activity:
 - Programmes ☒
 - Projects: regional initiatives ☒
 - Expert consultants ☒

9 Coordination and collaboration

The ITU-D study group dealing with this study Question will need to coordinate with:

- Relevant ITU-D study Questions, particularly Question 1/1 and Question 3/1
- Relevant ITU-T study groups, particularly Study Group 3 and its regional groups for Africa (SG3RG-AFR), Asia and Oceania (SG3RG-AO), Arab region (SG3RG-ARB), Latin America and the Caribbean (SG3RG-LAC) and Eastern Europe, Central Asia and Transcaucasia (SG3RG-EECAT)
- Relevant ITU-R study groups and working parties, particularly Working Party 1B
- Relevant focal points in BDT and ITU regional offices
- Experts and experienced organizations in this field.

10 BDT programme link

Links to the ITU-D priorities of the Baku Action Plan, specifically to "Affordable connectivity" and "Enabling policy and regulatory environment". Further information will be in the work plan.

11 Other relevant information

As may become apparent within the life of the Question.