MOD

QUESTION 5/2

Adoption and utilization of new and emerging telecommunication/ICT services and technologies, and development of digital skills

1 Statement of the situation or problem

With the rapid development and widespread application of new and emerging telecommunications/ICTs, including Artificial Intelligence (AI) applications within telecommunications/ICTs, achieving the Sustainable Development Goals (SDGs) and bridging the digital divide remain vital topics. As Member States face varied challenges and opportunities in these areas, fostering dialogue and collaboration can illuminate effective solutions.

As a key driver of digital transformation and technological innovation, telecommunications/ICTs have demonstrated their potential and capability to enable new opportunities through various use cases.

In bridging the digital divide, telecommunications/ICTs foster accessibility and inclusion through innovative tools and platforms. Their use by the widest number of different groups and segments of the population are critical to their success and to the greatest benefit in driving digital development.

Member States can actively engage in dialogue and explore best practices to utilise these telecommunications/ICTs to maximise the societal benefits and build a more inclusive and sustainable future.

Broadband technologies are fundamentally transforming the way we live. Broadband infrastructure, applications and services offer important opportunities to boost economic growth, enhance communications, improve energy efficiency, safeguard the planet and improve people's lives. Broadband access and adoption have a significant impact on the world economy and are important to bridging the digital divide.

According to the ITU 2025 edition of *Facts and Figures*, an estimated 2.6 billion people – or 32 per cent of the world's population – remain offline. In developed countries93 per cent of the population is estimated to be using the Internet in 2024. This contrasts with low-income countries where only 27 per cent of the population is estimated to be online. Of the 37 per cent of people who are offline, many cannot connect even if they wanted to due to a lack of mobile network coverage ("coverage gap"), while 32 per cent remain offline for other reasons ("usage gap").

Disparities are found across countries. With respect to gender, globally, only 65 per cent of women use the Internet compared to 70 per cent of men. In developing countries, women are almost less likely to use the Internet than men, compared to relative equality in most developed countries. The gender gap further widens in LDCs (29 per cent of women to 41 per cent of men) and in LLDCs (36 per cent of women to 43 per cent of men). Broadband adoption directly contributes to the likelihood that a community will participate in and benefit from the digital economy.

In indigenous communities, the digital divide plays an even larger role in widening the economic, educational and social divides. Due to the sparse population in rural and remote areas where

many indigenous people live combined with the challenges of broadband mapping and data collection, available information sources often provide incomplete data for Internet access and adoption. Methods to increase adoption in these areas will optimally focus on factors at the household and personal level to include price, availability of computers or other devices, content provided in local languages and digital skills.

Global stakeholders have become increasingly focused on alleviating disparities in broadband adoption by investing in approaches that address the affordability of devices and services and emphasize the importance of digital skills and digital literacy to effectively participate in the global economy. In a survey conducted by ITU, less than 40 per cent of the population in 40 per cent of countries surveyed had basic ICT skills, while, similarly, less than 40 per cent of the population in over 70 per cent of countries had standard ICT skills, and in over 95 per cent of countries less than 15 per cent of the population had advanced ICT skills.

There must be a significant uptake in broadband services and technologies for a community to participate fully in the digital economy. As stakeholders around the world work to deploy broadband networks, it is also important to develop and execute strategies that enable their citizens to adopt and effectively use broadband technologies, services and devices, supported by adequate digital skills. Increasingly, stakeholders use local languages and iconography to increase computer and overall literacy. Optimally, all strategies for adoption will be studied in the context of the social, economic and cultural factors faced by individuals in urban, rural and remote areas in both developed and developing countries.

2 Questions or issues for study

1) Policy, regulation, and initiatives being adopted for the development and advancement of new and emerging telecommunication/ICT services and technologies, such as the application of AI, by national regulatory authorities and other national, regional and international organizations to enable digital transformation.

2) The application of AI in advancing telecommunication/ICT networks.

3) Application and impact of new and emerging telecommunication/ICT services and technologies, in bridging the digital divide.

4) Collaboration on new and emerging telecommunication/ICT services and technologies with relevant ITU-D study Questions, with a focus on digital skills, and institutional capacity to support innovation in telecommunication/ICT sector and the development, deployment and application of new and emerging telecommunication/ICT services and technologies.

5) Share case studies on the application of emerging technology tools, such as AI and metaverse, in telecommunications/ICTs, and how they can contribute to digital transformation.

6) Means that may be adopted to foster effective cooperation and information-exchange on new and emerging telecommunication/ICT technologies among policymakers and regulators.

7) Analysis of adoption opportunities, challenges and disparities for telecommunications/ICTs, including broadband, highlighting the importance of bridging gaps through accessible digital skills training to help unserved and underserved populations overcome barriers to connectivity and digital inclusion.

8) Trends in telecommunication/ICT adoption globally, including in urban, rural, remote and other areas, while acknowledging global trends in telecommunication/ICT adoption across different geographies and recognising that accessible multilingual information plays a vital role in delivering digital skills training and promoting inclusive access to e-services for unserved and underserved communities worldwide.

9) Trends and case studies in digital skills development and training programmes to help communities with specific needs,-as well as unserved and underserved populations address challenges to connectivity and digital inclusion.

10) Methods to promote and encourage digital literacy, training and skills development across all levels of the global socio-economic landscape to close the digital skills gap.

11) Approaches to strengthen digital-skills training for the adoption of e-services, including e-agriculture, e-commerce, e-education and e-health in the context of the digital divide that persists in LDCs, LLDCs, SIDS and countries with economies in transition, particularly in rural and remote areas, and persons with specific needs.

12) Ways to encourage the adoption of telecommunications/ICT services and devices among children and youth and to teach them basic, intermediate and advanced digital skills so that they can safely participate fully in the information society.

13) Ways to encourage widespread adoption of new and emerging telecommunication/ICT services and technologies to increase meaningful connectivity for all, including women and for persons with disabilities and persons with specific needs and individuals in LDCs, LLDCs, and SIDS. This includes the use of tools and devices that are mobile friendly and enable offline access.

14) Strategies and policies to improve the affordability of Internet-enabled devices, including handsets and data services to meet the growing demand for affordable Internet services and devices (in collaboration with Question 4/1).

15) The influence of cultural, social and other factors in producing unique and often creative methods of encouraging the adoption of e-services by residents of developing countries, including relevant content in local languages.

16) Programmes and initiatives for developing relevant digital skills across all levels (basic, intermediate and advanced) to promote adoption, capacity building, and workforce development.

3 Expected output

Reports, best-practice guidelines, workshops, case studies and Recommendations, as appropriate, that address the issues for study, and the following expected outputs:

a) Policies, strategies and national experiences to stimulate adoption of telecommunication/ICT technologies, services and devices, including for broadband.

b) Methods and guidelines for telecommunication/ICT adoption specific to social, cultural and economic environments (in collaboration with Question 4/1).

c) Policies, strategies and national experiences to develop and promote digital skills, including training individuals at basic, standard and advanced levels.

d) Methods, guidelines and case studies for lifelong skills training on new and emerging telecommunication/ICT services and technologies for people of all ages and socio-economic backgrounds.

e) Policies, strategies and case studies promoting telecommunication/ICT adoption and skills development in indigenous communities, for women and for individuals in developing countries, LDCs, LLDCs and SIDS.

4 Timing

Annual progress reports will be presented to Study Group 2. Interim deliverables identified in § 3 could be sent to Study Group 2 for approval when ready without waiting for the end of study period.

5 Proposers/sponsors

ITU-D Study Group 2.

6 Sources of input

1) Contributions from Member States, Sector Members and Associates, and from relevant ITU-R and ITU-T study groups, and other stakeholders.

2) Results of related technical progress in relevant ITU-R and ITU-T study groups.

3) Interviews, workshops, existing reports and surveys should also be used to gather data and information for the finalization of a comprehensive set of best-practice guidelines.

4) Material from regional telecommunication/ICT organizations, telecommunication/ICT research centres, manufacturers and working groups should also be used, in order to avoid duplication of work.

5) ITU publications, reports and Recommendations on broadband deployment, digital inclusion and skills.

6) Relevant output and information from study Questions related to ICT applications.

7) Relevant inputs and information from BDT programmes related to broadband and the different broadband access technologies.

7 Target audience

Target audience	Developed countries	Developing countries
Telecom/ICT policy-makers	Yes	Yes
Telecom regulators	Yes	Yes
Service providers/operators	Yes	Yes
Additional stakeholders as appropriate	Yes	Yes
Manufacturers	Yes	Yes
Consumers/end users	Yes	Yes
Standards-development organizations, including consortia	Yes	Yes

a) Target audience

All national telecom/ICT policy-makers, regulators, service providers and operators, especially those in developing countries, as well as broadband providers and non-governmental or civil-society organizations supporting broadband adoption and connectivity.

b) Proposed methods for implementation of the results

The results of the study Question are to be distributed through ITU-D interim and final reports. 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 2 should they need it.

8 Proposed methods of handling the Question or issue

Close coordination is essential with ITU-D programmes, and other relevant ITU-D study Questions, and with ITU-R and ITU-T study groups.

a) How?

1) Within a study group:

– Question (over a multi-year study period) ☑

2) Within regular BDT activity:

– Programmes ☑

– Projects ☑

– Expert consultants ☑

3) In other ways ☐

b) Why?

The study Question will be addressed within a study group over a four-year study period (with submission of interim results), and will be managed by a rapporteur group. This will enable Member States and Sector Members to contribute their experiences and lessons learned related to this Question.

9 Coordination and collaboration

The ITU-D study group dealing with this study Question will need to coordinate with: relevant ITU-R and ITU-T study groups; the relevant outputs from other ITU-D study Questions; relevant focal points in BDT and ITU regional offices; coordinators of relevant project activities in BDT; experts and experienced organizations in this field.

10 BDT programme link

Links to BDT programmes aimed at promoting broadband adoption and affordability, digital inclusion and digital skills.

11 Other relevant information

As may become apparent within the life of the Question.