Goal 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all

Target 4.4: By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship

Indicator 4.4.1: Proportion of youth and adults with information and communications technology (ICT) skills, by type of skill

Institutional information

Organization(s):

International Telecommunication Union (ITU)

Concepts and definitions

Definition:

The proportion of youth and adults with information and communications technology (ICT) skills, by type of skill as defined as the percentage of individuals that have undertaken certain -ICT-related activities in the last 3 months. The indicator is expressed as a percentage.

Rationale:

ICT skills determine the effective use of information and communication technology, so this indicator may therefore assist in making the link between ICT usage and impact. The lack of such skills continues to be one of the key barriers keeping people from fully benefitting from the potential of information and communication technologies. These data may be used to inform targeted policies to improve ICT skills, and thus contribute to an inclusive information society.

This is also a core indicator of the Partnership on Measuring ICT for Development's Core List of Indicators, which has been endorsed by the UN Statistical Commission (in 2014).

Concepts:

The indicator on the *proportion of individuals with ICT skills, by type of skills* refers to individuals that have undertaken certain computer-related activities in the last three months. (Please note however, that from 2020 this data will be collected with a different scope and response categories, as explained below.)

Computer-related activities to measure ICT skills are as follows:
- Copying or moving a file or folder
- Using copy and paste tools to duplicate or move information within a document
- Sending e-mails with attached files (e.g. document, picture, video)
- Using basic arithmetic formulas in a spreadsheet
- Connecting and installing new devices (e.g. a modem, camera, printer)
- Finding, downloading, installing and configuring software
- Creating electronic presentations with presentation software (including images, sound, video or charts)
- Transferring files between a computer and other devices

- Writing a computer program using a specialized programming language

A *computer* refers to a desktop computer, a laptop (portable) computer or a tablet (or similar handheld computer). It does not include equipment with some embedded computing abilities, such as smart TV sets, and devices with telephony as their primary function, such as smartphones.

Most individuals will have carried out more than one activity and therefore multiple responses are expected. The tasks are broadly ordered from less complex to more complex, although there is no requirement for a respondent to select simpler tasks before selecting a more complex task.

A decision was made in 2018 to modify the formulation of this indicator (At the 6th Expert Group meeting on ICT Household Indicators (EGH), in Geneva), to make the indicator independent of the device used. This data will be collected from member states from 2020 onwards, and incorporate changes to some of the skills categories that were agreed in the 6th and 7th EGH meetings. The revised and new skills categories will be:

- Using copy and paste tools to duplicate or move data, information and content in digital environments (e.g. within a document, between devices, on the cloud)
- Sending messages (e.g. e-mail, messaging service, SMS) with attached files (e.g. document, picture, video)
- Using basic arithmetic formulae in a spreadsheet
- Connecting and installing new devices (e.g. a modem, camera, printer) through wired or wireless technologies
- Finding, downloading, installing and configuring software and apps
- Creating electronic presentations with presentation software (including text, images, sound, video or charts)
- Transferring files or applications between devices (including via cloud-storage)
- Setting up effective security measures (e.g. strong passwords, log-in attempt notification) to protect devices and online accounts
- Changing privacy settings on your device, account or app to limit the sharing of personal data and information (e.g. name, contact information, photos)
- Verifying the reliability of information found online
- Programming or coding in digital environments (e.g. computer software, app development)

Comments and limitations:

This indicator is relatively new but based on an internationally-agreed definition and methodology, which have been developed under the coordination of International Telecommunications Union (ITU), through its Expert Groups and following an extensive consultation process with countries. It was also endorsed by the UN Statistical Commission in 2014[1], and again in 2020.

The indicator is based on the responses provided by interviewees regarding certain activities that they have carried out in a reference period of time. However, it is not a direct assessment of skills nor do we know if those activities were undertaken effectively.

Methodology

Computation Method:

This indicator is calculated as the proportion of in-scope who have carried out each activity in the past 3

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[1] As one of the Core List of Indicators of the Partnership on Measuring ICT for Development.

months, regardless of where that activity took place. The indicator is expressed as a percentage.

Figures supplied are expressed as a proportion of the in-scope population.

Disaggregation:

Since data for the indicator on the proportion of individuals with ICT skills, by type of skills are collected through a survey, classificatory variables for individuals can provide further information on the differences in ICT skills among men/women, children/adults (age groups), employed/unemployed, etc., according to national requirements These data may be used to inform targeted policies to improve ICT skills, and thus contribute to the development of an inclusive information society.

Treatment of missing values:

- At country level

  None by data compiler.

- At regional and global levels

  None by data compiler.

Regional aggregates:

Regional and global aggregates are not currently available for this indicator.

Sources of discrepancies:

None

Data Sources

Description:

Countries can collect data on this indicator through national household surveys. Data for different countries are compiled by ITU.

Collection process:

Data for different countries are compiled and provided by ITU.

Data Availability

Description:

As of 2020, 91 economies have ever reported ICT skills data since 2005.

Time series:

2005 onwards

Calendar

Data collection:

Various. Each survey has its own data collection cycle.

Data release:

ITU releases data twice per year on ICT skills.

Data providers

Name:

Bodies responsible for conducting household surveys (including National Statistical Offices and Government Ministries) in which information on the use of ICT skills is collected. Data is compiled by ITU.

Data compilers

ITU

References

URL:

International Telecommunication Union:
https://www.itu.int/en/ITU-D/Statistics/Pages/default.aspx

References:

ITU Manual for Measuring ICT Access and Use by Households and Individuals 2020:
https://www.itu.int/en/ITU-D/Statistics/Pages/publications/default.aspx

Related indicators as of February 2020

4.5, 5.b, 8.5, 8.6, 8.b, 9.2, 9.c