

ITU EGH data pilots on *Aggregating skills indicators*

Pilot 1: Data simulations at country level

Pilot 1 is aimed at those countries who already collect data on HH15 and HH9 (see Figure 1). Participating in the pilot requires using microdata at the country level. The aim is to simulate how the data would look when aggregated at the individual level and when using a criterion-based method.

This document is part of a resource package to explain the formula to be used, as testing a new method for calculating an aggregate at the individual level may require support for data processing routines.

Draft document for discussion by JRC (Sept 1 2022)

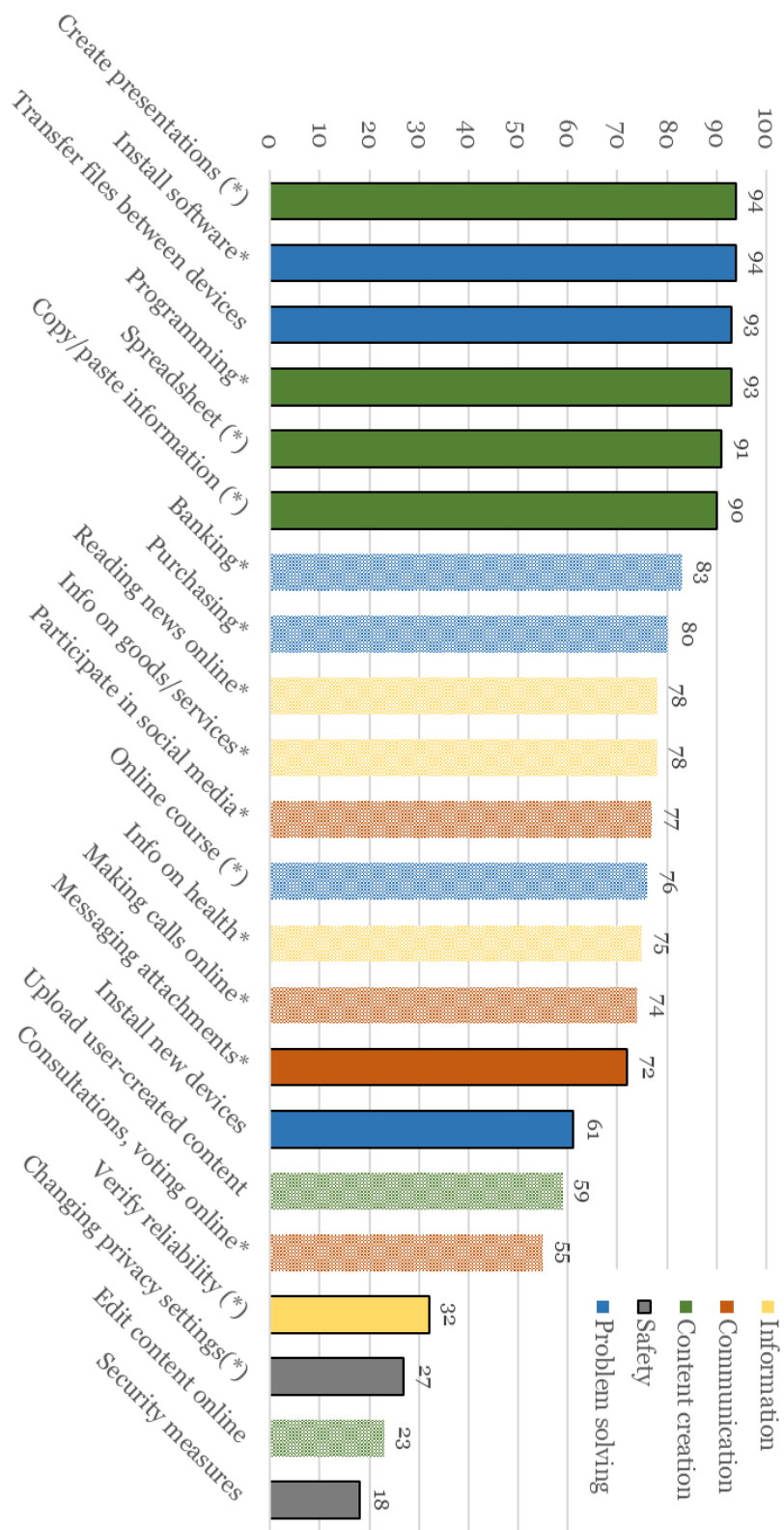


Figure 1. Number of countries providing data since 2015 on a set of 22 component indicators from HH9 and HH15 to be piloted at the country level on ICT skills. The ones with asterisk are also collected in EU's DSI, the ones with () with an updated formulation.

Criterion based assessment: *DSI Global (note, the exact criteria to be piloted and discussed)*

Overall digital skills assessment

Criteria is subject to change, the text below is modified from Eurostat's original Digital Skills Indicator (DSI)¹. It assumes that the country collects data in all 5 areas. However, the exact criteria should be discussed and agreed at the ITU level so that it is transparent for monitoring the skills' development at the global level.

In theory, the same computation can also be made for only 4 or fewer areas where countries do not collect data in all areas. Such cases should be well documented and clear as comparing the overall score (e.g. basic level) will be hindered. Documentation of items not collected with each area is also important - comparisons at the area level could also be inhibited where countries collect only a subset of items within the area.

Individuals with "**above basic**" (I_DSKG_AB) level of skills:

- "above basic" in all 5 areas

Individuals with a "**basic**" (I_DSKG_B) level of skills:

- at least "basic" in all 5 areas, but not "above basic" in all 5 areas

Individuals with "**at least basic level of skills**" (I_DSKG_BAB)²:

- if individuals fall either into "above basic" or "basic" category of skills

Individuals with "**4/5**" (I_DSKG_LW) level of skills:

- if individuals have "basic" or "above basic" level in 4 areas and "no activities" in 1 area (4 out of 5).

Individuals with "**3/5**" (I_DSKG_N) level of skills:

- if individuals have "basic" or "above basic" level in 3 areas and "no activities" in 2 areas (3 out of 5).

Individuals with "**2/5**" (I_DSKG_LM) level of skills:

- if individuals have "basic" or "above basic" level in 2 areas and "no activities" in 3 areas (2 out of 5).

Individuals with "**0-1/5**" (I_DSKG_X):

- if individuals have "no activities" in 4 areas or "no activities" in all 5 areas despite declaring having used the internet at least once during last 3 months.

Individuals for whom the digital skills **could not be assessed** (I_DSKG_NA) (*):

- individuals that have not used the internet in the last 3 months.

(*) scales presented as a share of Internet users can be computed only for the persons having used the internet during the previous 3 months.

The scales can also be presented in percentage of the entire population, in that case non-internet users should be classified in their own group - suggestion is not to incorporate them into 'I_DSKG_X' group (0-1/5).

¹ Empirical validation of the method <https://publications.jrc.ec.europa.eu/repository/handle/JRC130341>

² At EU level, this indicator is used for policy-targets such as 80% of Europeans having at least basic digital skills by 2030.

Formula and references to variables collected by the survey on ICT usage by households and individuals, ITU

DSKG_IL	<p>0</p> <p>1</p> <p>2</p> <p>9</p>	<p><i>Digital skills - Information and data literacy (country computed)</i></p> <p>If no condition from the following list is met, then 0 (none)</p> <p>If one condition is met, then 1 (basic)</p> <p>If several conditions are met, then 2 (above basic)</p> <p>Not applicable (IU=Blank or IU<>1)</p> <p><u>List of conditions for DSKG_IL:</u></p> <ul style="list-style-type: none"> ● HH15: Verifying the reliability of information (Eurostat: ICCSFOI, TICIDIS, TICNIDIS, TICXND) ● HH9: Getting information about goods or services (Eurostat: IUIF) ● HH9: Reading or downloading newspapers, etc (Eurostat: IUNW1) ● HH9: Seeking health-related information (Eurostat:IHIF) 	Individuals where Internet Use (IU)=1
DSKG_CC	<p>0</p> <p>1</p> <p>2</p> <p>9</p>	<p><i>Digital skills - Communication and collaboration (country computed)</i></p> <p>If no condition from the following list is met, then 0 (none)</p> <p>If one condition is met, then 1 (basic)</p> <p>If several conditions are met, then 2 (above basic)</p> <p>Not applicable (IU=Blank or IU<>1)</p> <p><u>List of conditions for DSKG_CC:</u></p> <ul style="list-style-type: none"> ● HH15: Sending messages (e.g. email, messaging service, SMS) with attached files (Eurostat: IUEM, IUCHAT1) ● HH9: Making calls (Telephoning over the Internet)] (Eurostat: IUPH1) ● HH9: Participating in social networks] (Eurostat: IUSNET) ● HH9: Taking part in consultation or voting via Internet] (Eurostat: IUVOTE) 	Individuals where IU=1
DSKG_DCC	<p>0</p> <p>1</p> <p>2</p> <p>9</p>	<p><i>Digital skills – Digital content creation (country computed)</i></p> <p>If no condition from any of the following list is met, then 0 (none)</p> <p>If one condition is met, then 1 (basic)</p> <p>If several conditions are met, then 2 (above basic)</p> <p>Not applicable (IU=Blank or IU<>1)</p> <p><u>Lists of conditions for DSKG_DCC:</u></p> <ul style="list-style-type: none"> ● HH15: Using copy and paste tools (Eurostat: CXFER1) ● HH15: Creating electronic presentations (Eurostat: CPRES2) ● HH15: Using basic arithmetic formula in a spreadsheet (Eurostat:CXLS1) ● HH15: Writing a computer program (Eurostat: CPRG2) ● HH9: Editing online text, spreadsheets, presentations (Eurostat: CWRD1) ● HH9: Uploading self/user-created content 	Individuals where IU=1

DSKG_SF	<p>Digital skills – Safety (country computed)</p> <p>0 If no condition from any of the following list is met, then 0 (none)</p> <p>1 If one condition is met, then 1 (basic)</p> <p>2 If several conditions are met, then 2 (above basic)</p> <p>9 Not applicable (IU=Blank or IU<>1)</p> <p><u>List of conditions for DSKG_SF:</u></p> <ul style="list-style-type: none"> • HH15: Changing privacy settings (Eurostat: MAPS_LAP) • HH15: Setting up effective security measures 	Individuals where IU=1
DSKG_PS	<p>Digital skills - Problem solving skills (country computed)</p> <p>0 If one condition is met, then 1 (basic)</p> <p>1 If several conditions are met, then 2 (above basic)</p> <p>2 If at least one condition is met in list A <u>and</u> in list B, then 2 (above basic)</p> <p>9 Not applicable (IU=Blank or IU<>1)</p> <p><u>Lists of conditions for DSKG_PS:</u></p> <ul style="list-style-type: none"> • HH15: Finding, downloading, installing and configuring software (Eurostat:CINSAPP1) • HH15: Connecting and installing new devices • HH15: Transferring files or applications between devices • HH9: Electronic financial transactions (Eurostat: IUBK) • HH9: Doing an online course (Eurostat: IUOLC or IUOLM) • HH9: Purchasing or ordering goods or services (Eurostat: IBUY=1 or IBUY=2) 	Individuals where IU=1
DSKGlobal	<p>Digital skills Global - Overall skills (country computed)</p> <p>Computed on the basis of combining the values of the five components, DSKG_IL, DSKG_CC, DSKG_DCC, DSKG_SF, DSKG_PS, as follows:</p> <p>0 0-1/5 (score of 0 on 4 or 5 components)</p> <p>1 2/5 (score of 0 on 3 components)</p> <p>2 3/5 (score of 0 on 2 components)</p> <p>3 4/5 (score of 0 on 1 component)</p> <p>4 Basic (score of at least 1 on each of 5 and less than 2 on 1 or more of 5 components)</p> <p>5 Above Basic (score of 2 on all 5 components)</p> <p>9 Not applicable (IU=Blank or IU<>1)</p>	Individuals where IU=1