Aid for Trade Workshop on
“Connectivity and digital skills development”
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Susan Teltscher, Ph.D.
Head, Human Capacity Building Division
ITU
Outline

- Introduction
- The link between connectivity and skills
- Skills requirements and gaps
- Action required and ITU’s engagement
ICT skills are driving ICT impact

Figure 2.1: Three stages in the evolution towards an information society

- ICT Readiness (infrastructure, access)
- ICT Use (intensity)
- ICT Impact (outcomes)

ICT Development Index

Source: ITU
THE LINK BETWEEN CONNECTIVITY AND SKILLS
Connectivity is thriving ....

Global ICT developments, 2001-2018*

- Mobile-cellular telephone subscriptions
- Individuals using the Internet
- Fixed-telephone subscriptions
- Active mobile-broadband subscriptions
- Fixed-broadband subscriptions

Note: * Estimate
Source: ITU World Telecommunication /ICT Indicators database
... but we need to take a closer look:
76% of the population own a mobile phone, 56% in LDCs

Source: ITU; *estimate
51% of the world population online by the end of 2018

Measuring the Information Society Report
#ITUdata
Gap between Internet access and usage:
90% of the world population lives in an area that has broadband access whereas only 50% are using the Internet

Source: ITU
Gap between Internet access and usage:
Gap is largest in LDCs – WHY?

Mobile population coverage and Internet usage (2018)

Source: ITU
Barriers to Internet usage
65% of answers related to education and skills

Source: Calculations based on 2017/2018 After Access surveys
- Non-weighted average based on data from 20 low-income countries in Africa, Asia and Latin America
- “Other” includes “not available in my area”.
Link between education and Internet adoption in LDCs

**3G coverage (% of population)**

- **Access**
  - 2013: 25%
  - 2014: 40%
  - 2015: 51%
  - 2016: 61%
  - 2017: 69%
  - 2018: 78%
  - 2019: 88%
  - 2020: 97%

**Mobile broadband price (% GNI)**

- **Affordability**
  - 2013: 30.3%
  - 2014: 16.6%
  - 2015: 14.6%
  - 2016: 12.0%
  - 2017: 9.7%
  - 2018: 7.4%
  - 2019: 5.0%
  - 2020: 2.7%

**Gross secondary school enrollment**

- **Skills**
  - 2013: 39%
  - 2014: 39%
  - 2015: 40%
  - 2016: 41%
  - 2017: 41%
  - 2018: 42%
  - 2019: 42%

**Internet use (% of population)**

- **Access**
  - 2013: 8%
  - 2014: 10%
  - 2015: 13%
  - 2016: 16%
  - 2017: 18%
  - 2018: 19%
  - 2019: 21%
  - 2020: 23%

Source: ITU
Lack of digital skills is key barrier to Internet adoption in developing countries

- ITU Report 2017: Lack of digital skills emerging as a leading barrier to Internet use in many LDCs
  - Digital skills closely linked to educational attainment
  - Secondary school enrolment in LDCs (43%) lies well below world average (76%)

- GSMA Consumer Survey 2017:
  - ‘Do not know how to access Internet on a mobile’ was in the top 5 barriers in 9 countries, in particular in Africa.

- UNESCO: 96% of European schools have Internet access but only 31% of schools in Africa

- After Access Surveys 2017/2018:
  - large % of non-Internet users “don’t know what the Internet is” (Africa, LatAm, Asia)
  - Lack of knowledge/no need is a major reason for why individuals do not sell or buy online
SKILLS REQUIREMENTS
AND SKILLS GAPS
Almost 60% of the population lack standard digital skills
Only 5% know how to write a computer program

Source: ITU Measuring the Information Society Report 2018
Based on data from 52 (mostly developed) countries
Major skills gap between developed and developing countries (LDCS not included)

Distribution of specific digital skills in developed and developing countries (2017)

Source: ITU Measuring the Information Society Report 2018
Based on data from 52 countries
Strong link between level of education and level of digital skills but less evident for programming

Level of education and digital skills (2017)

- Primary education
- Lower-secondary education
- Upper-secondary education
- Tertiary education

Proportion of group with skill

- Copying or moving a file or folder: 21% primary, 41% lower-secondary, 52% upper-secondary, 41% tertiary
- Sending e-mails with attached files: 11% primary, 37% lower-secondary, 54% upper-secondary, 37% tertiary
- Transferring files between a computer and other devices: 19% primary, 35% lower-secondary, 44% upper-secondary, 35% tertiary
- Using copy and paste tools: 13% primary, 37% lower-secondary, 45% upper-secondary, 37% tertiary
- Using basic arithmetic formulas in a spreadsheet: 13% primary, 24% lower-secondary, 33% upper-secondary, 24% tertiary
- Finding, downloading, installing, and configuring software: 11% primary, 26% lower-secondary, 33% upper-secondary, 26% tertiary
- Connecting and installing new devices: 10% primary, 25% lower-secondary, 33% upper-secondary, 25% tertiary
- Creating electronic presentations: 12% primary, 21% lower-secondary, 24% upper-secondary, 21% tertiary
- Writing a computer program: 2% primary, 4% lower-secondary, 8% upper-secondary, 4% tertiary

Source: ITU Measuring the Information Society Report 2018
Based on data from 52 countries
Skills gap in the European Union

- 44% of European citizens do not have basic digital skills
- 37% of people in the labour force lack sufficient digital skills

EU computer skills gap – especially coding

People who used selected computer skills, EU-28, 2016
(% share)

- Used cut/copy and paste to duplicate or move information (*)
- Copied or moved a file or folder
- Transferred files between computer and other devices
- Connected and installed new devices (*)
- Used spreadsheet software
- Created presentations or documents integrating text, pictures, tables or charts
- Compressed files (*)
- Installed new or replaced old operating system (*)
- Wrote code in a programming language

(*) 2014.
(2) For example a printer or a modem.
Source: Eurostat (online data code: iscc_sk_cshl_i)
Skills requirements

The Jobs Landscape in 2022

Top 10 Emerging
1. Data Analysts and Scientists
2. AI and Machine Learning Specialists
3. General and Operations Managers
4. Software and Applications Developers and Analysts
5. Sales and Marketing Professionals
6. Big Data Specialists
7. Digital Transformation Specialists
8. New Technology Specialists
9. Organisational Development Specialists
10. Information Technology Services

133 Million

Top 10 Declining
1. Data Entry Clerks
2. Accounting, Bookkeeping and Payroll Clerks
3. Administrative and Executive Secretaries
4. Assembly and Factory Workers
5. Client Information and Customer Service Workers
6. Business Services and Administration Managers
7. Accountants and Auditors
8. Material-Recording and Stock-Keeping Clerks
9. General and Operations Managers
10. Postal Service Clerks

75 Million

Lack of skills is one of the main barriers to e-commerce (selected countries)

<table>
<thead>
<tr>
<th>Bar Chart Description</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complicated to export online</td>
<td>35</td>
</tr>
<tr>
<td>Return on investment to start selling online is not clear to me</td>
<td>30</td>
</tr>
<tr>
<td>Poor or expensive e-commerce-related logistics</td>
<td>27</td>
</tr>
<tr>
<td>Poorly working online payments</td>
<td>26</td>
</tr>
<tr>
<td>Small size of domestic e-commerce market</td>
<td>25</td>
</tr>
<tr>
<td>Poor connectivity and IT backbone in my country</td>
<td>23</td>
</tr>
<tr>
<td>My team's capacity to engage in e-commerce</td>
<td>22</td>
</tr>
<tr>
<td>It is a big investment for me to start selling online</td>
<td>20</td>
</tr>
</tbody>
</table>

Source: Suominen (2017a), E-commerce development survey and index.
Skills gap in companies (1)

Note: % of respondents who answered “Highly Skilled” or “Rather Skilled” and rated the respective competence area as important or highly important
Source: https://www.sap.com/documents/2017/07/06d6b369-c57c-0010-82c7-eda71af511fa.html
Cybersecurity is the cornerstone of the digital economy.

Companies that are able to attract and retain digital security talent will be much more successful in profiting from the digital economy and managing the digital security risk.
ACTION REQUIRED and ITU’S ENGAGEMENT
Action required – digital skills development

- The digital economy requires a workforce fit for purpose
- Basic digital skills education in schools are a must
- Reskilling and upskilling (workforce)
- Lifelong learning – involve actors outside the formal education system
- Digital skills strategies and policies (national, regional) based on comprehensive needs assessment and training of policy makers
- Role for international community in building capacities and developing skills
 Actors involved (digital skills ecosystem)

- Ministry of Education
- Civil society
- Local communities
- Ministry of ICT/digital economy
- Ministry of Economy
- Private sector
- Formal education system
- Academia
- Training providers outside the formal system
- Regional and internat. organizatons
ITU and capacity building - mandate

- ITU World Telecommunication Development Conference (WTDC) 2017
- ITU Strategic Plan and ITU-D Action Plan for the next 4 years
  - Include capacity building as a major objective/outcome
- ITU Regional Initiatives: all have capacity building elements (5 RI in each region)
- Strong mandate on capacity building
ITU capacity building and skills development: topics

- Spectrum management
- ICT applications & services
- Cybersecurity
- ICT accessibility (digital inclusion)
- Internet governance
- IoT
- AI
- Broadband access
- Quality of Service
- ICT policy & regulation
- ICT and climate change
- E-waste
- Coding
- Digital broadcasting
- Quality of Service
Delivery of training

Main delivery entities:

- 31 Centers of Excellence
- Partners (academic institutions, specialized training institutes)
- ITU

Main delivery channels:

- ITU Academy platform
- Face-to-face trainings and capacity building workshops
Centres of Excellence (CoE) programme

- Flagship ITU capacity development programme
- Global network of high-quality training institutions to build capacity and develop skills in the field of ICT and digital technologies
- Programme in place since 2001 – strategy was reviewed in 2012, new strategy started with last cycle (2015-2018)
- Core elements of new strategy:
  - self-sustainability principle
  - defined priority areas
  - limited number of centers
- 4-year cycle - aligned with WTDC
- WTDC Resolution 73 (mandate)
- CoE networks established in Africa, the Americas, Arab States, Asia-Pacific, CIS and Europe
Centres of Excellence (CoE) network
31 CoEs in six regions (2019-2022 cycle)
Training delivery through partnerships
Selected partners
ITU Digital Skills Toolkit 2018

- Provides stakeholders with guidance on developing a digital skills strategy
- Intended for policymakers, partners in the private sector, non-governmental organizations and academia
- To facilitate the development of a comprehensive digital skills strategy

https://www.itu.int/pub/D-PHCB
ITU-ILO Digital Skills for Decent Jobs for Youth Campaign

Join us

www.decentjobsforyouth.org
#decentjobsforyouth
#DIGITALSKILLS
Forum for knowledge exchange for capacity building stakeholders from all over the world - platform for partnerships

- ITU as neutral convener, facilitator, matchmaker and broker
- ITU brings together supply and demand for ICT training
Africa Girls Can Code Initiative (AGCCI)
Objective: girls’ and women’s empowerment and development through increasing their access to technology, education and employment by equipping them with relevant skills

Activities:
- training in digital literacy, SCRATCH (programming and online community) and personal development
- coding camps
- mainstreaming ICT and coding in education system/national curricula

Target groups: girls aged 17-20 from across Africa

Partners: ITU, UN WOMEN, African Union
- Supported by Danish Government
THANK YOU

http://academy.itu.int