



Economic and Social Council

Distr.: General

18 December 2017

Original: English

Statistical Commission

Forty-ninth session

6 – 9 March 2018

Item 4(f) of the provisional agenda*

Items for information: information and communications technology statistics

Report of the the Partnership on Measuring Information and Communications Technology for Development

Note by the Secretary-General

In accordance with Economic and Social Council decision 2017/228 and past practices, the Secretary-General has the honour to transmit the report of the Partnership on Measuring Information and Communications Technology for Development. The report presents an overview of the work undertaken by the Partnership since the forty-seventh session in 2016, including updates to the core list of information and communications technology (ICT) indicators, recent developments on measuring the digital economy (such as e-commerce and international trade in ICT-enabled services), and measuring electronic waste. The report also presents a Partnership proposal to prepare a thematic list of ICT indicators for monitoring progress towards implementation of the 2030 Agenda, and in this context highlight challenges for national statistical offices in producing ICT statistics, including related to capacity building.

* E/CN.3/2018/1.

I. Introduction

1. The Partnership on Measuring Information and Communication Technology (ICT) for Development was launched in 2004 to improve the availability of internationally comparable ICT statistics.¹ Since then, ICT statistics have been a regular item on the agenda of the UN Statistical Commission (UNSC) and the Partnership has reported on progress in its work in 2005, 2007, 2009, 2010, 2012, 2014 and 2016.²

2. The Commission considered the topic of ICT statistics as an item for discussion at its 38th session in 2007, at its 43rd session in 2012, at the 45th session in 2014, and at the 47th session in 2016. At its 47th session, among others, the Commission acknowledged the role of ICT as an enabler for achievement of the Sustainable Development Goals and the ICT sector as a major provider of big data, and recommended that the Partnership develop guidance to improve cooperation with the different stakeholders for the purpose of producing high-quality and timely ICT statistics and of leveraging the potential benefits of using big data for official statistics.³ It also requested that the Partnership report back to the Commission in 2018 with a review of the status of official ICT statistics and their integration into the monitoring framework of the 2030 Agenda for Sustainable Development. In this context, the Commission recommended that efforts be increased to strengthen the capacity of national statistical systems in producing ICT statistics.

3. The present report provides an overview of work done by the Partnership since its last report to the Statistical Commission in 2016, in particular linked to monitoring progress towards the Sustainable Development Goals.

II. Recent progress in ICT measurement

A. Core list of ICT indicators, definitions and statistical standards

4. One of the main achievements of the Partnership on Measuring ICT for Development has been the establishment of a core list of ICT indicators, which was endorsed by the Commission at its 38th session in 2007 and revisions were presented at the 43rd, 45th and 47th sessions.⁴ The core list has served as the basis for the collection of internationally comparable ICT statistics worldwide and covers the following areas: ICT infrastructure and access; access and use of ICT by households and individuals; use of ICT by businesses; the ICT sector; trade in ICT goods and services; ICT in education; e-government; and electronic waste.⁵ The main purpose of the list is to help countries that collect (or are planning to collect) ICT statistics to produce high quality and internationally comparable data. In order to achieve this, the indicators have associated statistical standards and metadata.

5. Within the Partnership, ITU is responsible for collecting, harmonizing and disseminating the core ICT access and ICT household indicators and is regularly reviewing the definition of the indicators to ensure that it remains relevant to the fast changing evolution of ICT. The Expert Group on Telecommunication/ICT Indicators (EGTI), which includes 815 members and the Expert Group on ICT Household Indicators (EGH), which includes 554 members, work through online discussion forums and report the outcome of their work to the World Telecommunication/ICT Indicators Symposium (WTIS). The most recent outcomes of the work of the EGH were

¹ As of November 2017, members of the Partnership were the International Telecommunication Union (ITU); the Organisation for Economic Co-operation and Development (OECD); the United Nations Conference on Trade and Development (UNCTAD); the United Nations Educational, Scientific and Cultural Organization's Institute for Statistics (UIS); the United Nations Economic Commission for Latin America and the Caribbean (UNECLAC); the United Nations Economic and Social Commission for Western Asia (UNESWA); the United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP); the United Nations Economic Commission for Africa (UNECA); the UN Department of Economic and Social Affairs (UN-DESA); Eurostat; the United Nations Environment Programme (UNEP) Secretariat of the Basel Convention (SBC) on the Control of Transboundary Movements of Hazardous Wastes and their Disposal, the United Nations University Vice-Rectorate in Europe Sustainable Cycle Programme (UNU-ViE SCYCLE); the World Bank; and the International Labour Organization (ILO).

² E/CN.3/2005/23; E/CN.3/2007/5; E/CN.3/2009/19; E/CN.3/2010/28; E/CN.3/2012/12; E/CN.3/2014/8. E/CN.3/2016/13

³ E/2014/24 and E/CN.3/2014/35.

⁴ E/CN.3/2007/5; E/CN.3/2012/12; E/CN.3/2014/8. and E/2016/24-E/CN.3/2016/34

⁵ http://www.itu.int/en/ITU-D/Statistics/Documents/coreindicators/Core-List-of-Indicators_March2016.pdf

presented in WTIS-17, held in Hammamet, Tunisia in November 2017, including new indicators on e-commerce (see Annex 1), and the inclusion of smartphone as a new sub-category of indicators HH3, HH10 and HH18:

- HH3 Proportion of households with telephone
- HH10 Proportion of individuals using a mobile cellular telephone
- HH18 Proportion of individuals who own a mobile phone

These indicators will be included in the Manual for Measuring ICT Access and Use by Households and Individuals.

6. In 2016, the Partnership Task Group on measuring ICT services and ICT-enabled services had proposed four indicators on imports and exports of such services to be added to the core list of indicators.⁶ Building on that work in 2017, UNCTAD provided technical assistance for the launch of pilot enterprise surveys on exports of ICT-enabled services, in Costa Rica, India and Thailand. The surveys are implemented by national statistical agencies in collaboration with the private sector. The project aims at enhancing the capacity of national agencies to produce official statistics on international trade in ICT-enabled services. A first set of preliminary results was presented at an expert meeting in November 2017, and lessons learned from the first round of implementation are being taken into account for revising the model survey questionnaire and methodological guidelines. A report with the main findings will be prepared by UNCTAD in 2018. Other countries have expressed an interest in conducting similar surveys.⁷

III. ICT statistics to measure progress towards the goals of the 2030 Agenda for Sustainable Development

7. In March 2017, the global indicators SDG framework developed by the IAEG-SDG, was agreed at the 48th session of the United Nations Statistical Commission held in March 2016. Out of the 232 indicators included in the framework, only seven ICT indicators are included. However, ICTs are recognized as a key development enabler and the role that ICTs will play in achieving the SDGs has also been stressed by the ICT community, including the World Summit on the Information Society (WSIS), the Commission on Science and Technology for Development (CSTD) and the UN Group on the Information Society (UNGIS). It is therefore important that all areas where ICTs will play a role are measured and monitored.

8. With this in mind, the Partnership on Measuring ICT for Development established a Task Group on ICT for the SDGs which aims to propose a thematic list of ICT indicators that could be used to measure ICT availability and use in sectors relevant to the SDGs that are not covered in the global SDG indicators framework. These may include indicators on skills, e-commerce, financial inclusion, e-government and e-waste. The Task Group will further aim at improving availability of disaggregated data, for the indicators that will be defined in the thematic list, in addition to the ICT indicators included in the SDG measurement framework. The Task Group is open to all members of the Partnership and other interested agencies and stakeholders.

9. The Task Group was initiated in January 2017 and was launched in June 2017 at the occasion of the WSIS Forum held in Geneva during the thematic session organized by the Partnership. The Task group will work between 2017 and 2020 and can be extended until 2030, to capture the changes in the overall SDG discussions.

10. In May 2017, the Partnership provided an input to the 2017 United Nations High-level Political Forum on Sustainable Development (HLPF) regarding the indicators to measure the contribution of ICTs to sustainable development that should be considered in addition to the indicators in the SDG monitoring framework.⁸ In total, the Partnership on Measuring ICT for Development has identified 30 targets that would benefit from additional indicators on the impact of ICT in progress towards sustainable development. The HLPF recognized that lack of

⁶ E/CN.3/2016/13

⁷ In relation to the new household indicators on e-commerce and the work to measure international trade in ICT-enabled services, there has been increased interest by countries in measuring cross-border e-commerce. UNCTAD is collaborating with organizations outside the Partnership on Measuring ICT for Development to find ways to collect this data, including through enterprise surveys (see http://unctad.org/en/PublicationsLibrary/tn_unctad_ict4d06_en.pdf)

⁸ <https://sustainabledevelopment.un.org/content/documents/14826ict.pdf>

official statistics, data and effective monitoring systems remain a significant challenge to measuring progress, in particular at the SDG target level.⁹

11. In addition, a specific contribution to SDG 12 (Ensure sustainable consumption and production patterns) follows the publication in 2015 of e-waste statistics guidelines developed by the Partnership task group on measuring e-waste. In 2017, the ITU, the UN University (UNU), and the International Solid Waste Association (ISWA) formed the Global e-Waste Statistics Partnership, which aims to build capacity in countries to produce reliable and comparable e-waste statistics and build a global e-waste database, to track developments over time and to inform policy makers and industry. In November 2017, the Partnership published the Global e-Waste Monitor, a comprehensive report which provides a review of the e-waste challenge, including the fact that only 41 countries collect internationally comparable statistics on e-waste, and 2017 estimates for global e-waste quantities. This work aims to identify recycling opportunities and best practices of global e-waste management, and is seeking to engage with other public and private partners interested in addressing the global e-waste challenge.

12. Finally, the Partnership held a session at the ITU World Telecommunication Indicators Symposium in November 2017 that discussed how tracking the digital economy can help countries achieve the SDGs. The session noted that digitization has transformed the world today, and that the digital economy has highly influenced trade, commerce, labour requirements and government policies, in particular policies pinpointing connectivity, effective use, skills, security and privacy, and strategic coordination.¹⁰

IV. Big data for ICT statistics

13. The growth of ICTs has resulted in a rapid increase of new (including big) data sources, in particular from the ICT industry. ITU is looking into innovative ways to utilize big data as a new data source and to overcome important data gaps. Discussions were done in various ITU World Telecommunication/ICT Indicators Symposium (WTIS) held from 2013 to 2017, and in the work of the EGH. In addition, ITU plays an active role in the Global Working Group (GWG) on Big Data for Official Statistics through its task teams on methodologies, skills and capacity building, and experiences on how mobile phone, satellite and social media could be used for official statistics.

14. As a key contribution of ITU to exploring new data sources for official statistics, the ITU launched in June 2016 a pilot project on using 'Big Data for Measuring the Information Society'. The project included pilot studies in six countries (Colombia, Georgia, Kenya, Philippines, Sweden and the United Arab Emirates) that aims to explore how big data from the ICT industry, particularly from telecommunication operators, can produce new or complement existing indicators to measure the information society. A document, which includes big data ICT indicators and methodologies, was produced as an outcome of this project. The experiences learned by the pilot countries as well as the methodology document can be used as a reference by countries who are interested in implementing similar activities.

15. UNESCO has also discussed the use of big data for ICT in education. The 2017 UNESCO International Forum on ICT and Education 2030 noted that measuring and tracking data related to the availability and use of ICT is critical for making evidence-based policies. In particular, data disaggregated by gender, age, education level, socio-economic status and other key variables can provide much clearer and more accurate indicators for measuring progress towards Sustainable Development Goal 4 (Ensure inclusive and quality education for all and promote lifelong learning). In this context, the Qindao statement of 2017 reaffirmed that policies and strategies are increasingly needed to ensure secure, appropriate and ethical use of data, including safeguarding the privacy and confidentiality of personally identifiable information.

V. Conclusions

16. The need for more and better official ICT statistics to help measure progress in the 2030 Agenda has been widely recognized. Countries will need to consider ICT indicators beyond the SDG monitoring framework in

⁹ https://sustainabledevelopment.un.org/content/documents/16673HLPF_2017_Presidents_summary.pdf

¹⁰ <http://www.itu.int/en/ITU-D/Statistics/Pages/events/wtis2017/Programme.aspx>

order to adequately assess the impact of ICTs in their sustainable development. The Partnership's new Task Group on ICT for SDGs will provide guidance to countries in this regard.

17. The measurement of the evolving digital economy in particular is an aspect of ICT statistics that has received increased attention from individual Partners as part of their mandate, and this work in turn contributes to knowledge sharing within the Partnership, such as the UNCTAD Information Economy Report 2017,¹¹ the theme of the ITU WTIS 2017, and the OECD Digital Economy Outlook 2017.¹² New data needs for the digital economy will require that countries strengthen national coordination and include all stakeholders in order to improve the data quality and availability to inform policy.

18. The Partnership will continue to review and update its list of ICT indicators, cooperate in developing new indicators, related methodology, and contribute to the statistical development of countries by offering capacity-building assistance.

19. The Partnership recognizes the potential of big data produced by the evolving digital economy, in particular by technologies such as the Internet of Things, cloud computing, and artificial intelligence. At the same time, issues of data access and sharing, data protection, privacy and security will have to be addressed, and national statistical systems will need to develop protocols to be able to leverage these new data sources.

20. Once again, the Partnership calls upon development partners to consider expanding their support for technical assistance on ICT statistics, in particular to train national statisticians and other producers and users of official ICT statistics, and to finance the data collection, analysis and dissemination.

21. The Partnership on Measuring ICT for Development will submit its next report to the Statistical Commission in 2020 in accordance with the Commission's multi-year programme.

22. The Commission is invited to take note on the progress made on ICT statistics.

¹¹ Chapter II is devoted to "Measuring the Evolving Digital Economy", see http://unctad.org/en/PublicationsLibrary/ier2017_en.pdf

¹² <http://www.oecd.org/sti/oecd-digital-economy-outlook-2017-9789264276284-en.htm>

Annex 1. New indicators on e-commerce (households and individuals)

The EGH meeting agreed to include the following indicators to be included in the Manual for Measuring ICT Access and Use by Households and Individuals and to be collected annually by ITU.

Indicator 1: Type of goods and services purchased online

The following types of goods and services purchased online would be included as response categories (multiple choices possible):

- Books, magazines or newspapers;
- Clothing, footwear, sporting goods or accessories;
- Computer equipment or parts (including peripheral equipment);
- Computer or video games;
- Computer software (includes upgrades and paid apps; not games);
- Cosmetics;
- Financial products (including shares and insurance);
- Food, groceries, alcohol or tobacco;
- Household goods (e.g. furniture, toys, etc.; excluding consumer electronics)
- ICT services (excluding software);
- Medicine;
- Movies, short films or images;
- Music products;
- Photographic, telecommunications or optical equipment;
- Tickets or bookings for entertainment events (sports, theatre, concerts, etc.); and
- Travel products (travel tickets, accommodation, vehicle hire, transport services etc.).

Target population: individuals who purchased products over the internet.

Indicator 2: Payment channels for online purchases

The following types of payment channels would be included as response categories (multiple choices possible):

- Cash on delivery;
- Credit card online;
- Debit card or electronic bank transfer online;
- Mobile money account (account connected to the mobile number);
- Online payment service (e.g. PayPal, Google Checkout);
- Prepaid gift card or online voucher;
- Points from rewards or redemption program (e.g. Air Miles); and
- Other (e.g. bank check by post, etc.).

Target population: individuals who purchased products over the Internet.

Indicator 3: Reasons for not purchasing online

The following reasons for not purchasing online would be included as response categories (multiple choices possible):

- Not interested;
- Prefer to shop in person;
- Security concerns (e.g. about giving debit or credit card details);
- Privacy concerns (e.g. about giving personal details);
- Technical concerns (e.g. about websites, payment or delivery);
- Trust concerns (e.g. about warranties, receiving or returning products); and
- Lack of confidence, knowledge or skills.

Target population: individuals who did not purchase over the Internet.

Indicator 4: Method of delivery

The following methods of delivery would be included as response categories (multiple choices possible):

- Delivery directly to the buyer using regular postal services or other forms of delivery;
- Picked up from point of sale or service point;
- Online / electronic delivery by downloading from a website or through an application, software or other device (e.g. in-app purchases, streaming services etc.);

Target population: individuals who purchased products over the Internet.