Pelopor
Data Statistik
Terpercaya
Untuk Semua

Indonesia Experience In ICT Data Collection

Presented by:
Andri Yudhi Supriadi
(National Focal Point for IDI Household Indicator)

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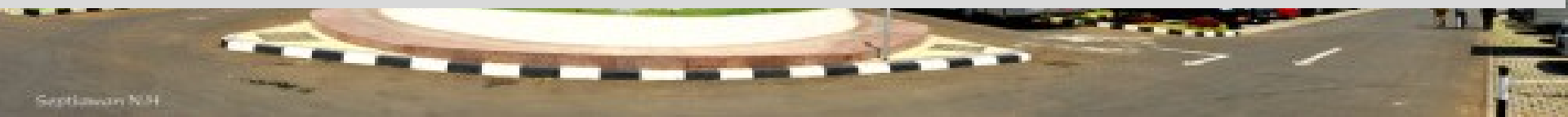


OUTLINE

- Background
- ICT Statistics in Indonesia
- Issues and Challenges

Background

Indonesia Government Vision

Ministry of Communication and Information Technology Of Indonesia

"Indonesia Will Become the Largest Digital Economy Player in Southeast Asia“

Data helps government to benchmark the achievement and to make good policy based on evidence.

Emerging ICT Statistics

Supporting the phenomenon of economic inclusion through the provision of **ICT core indicators**

Developing the preparation of Sub-national level **ICT Development Index** (Provincial level)

Supporting the monitoring of **SDGs** (Sustainable Development Goals) indicators

Supporting **Digital Economy** phenomena: through the provision of ICT statistics data related to e-commerce, innovation, R&D

Implementation of **Big Data** through MPD (mobile positioning data) and data crawling to complement the provision of ICT statistical data

Supporting the phenomenon of the **Creative Economy** through the provision of strategic indicators .

ICT Statistics Data to support the Digital Economy Phenomenon

Internet Penetration by Business Sector and Education Sector, 2017

69.53%

76.25 %

Business Sector

Education Sector

Source: Usage of IT Survey in Business Sector, 2018

Households and Individuals who use the Internet and own mobile phones, 2018

Household

66.22 %

Use Internet

Individual

Use Internet

39.90 %

Own HP

62.22 %

Source: National Socio Economic Survey, 2018

DEVICE

NETWORK

APPLICATION

Village according to Cellular Phone Signal Reception, 2014

67.98 % Strong Signal

22.63 % Weak Signal

9.39 % No Signal

Source: Village Potential Survey, 2014

Percentage of Business Sector By internet usage, 2017

Sending Emails

85.92%

Accesing Social Media

54.47%

Source: Usage of IT Survey in Business Sector, 2018

SDG's

Goal 5

Target 5.b: Enhance the use of enabling technology, in particular information and communications technology, to promote the empowerment of women

5.b.1 Proportion of individuals who own a mobile telephone, by sex

Goal 17

Target 17.8: Fully operationalize the technology bank and science, technology and innovation capacity-building mechanism for least developed countries by 2017 and enhance the use of enabling technology, in particular information and communications technology

17.8.1 Proportion of individuals using the Internet

SDG's

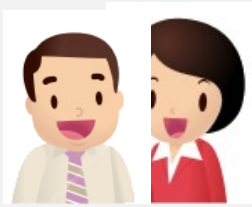
Target 5.b.1

Proportion of individuals who own mobile phones (%), 2018

67,59%

57,19%

62,41%

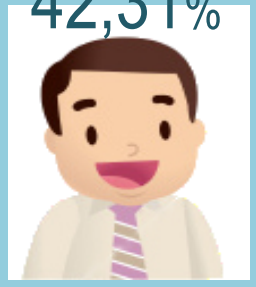


Individual

Target 17.8.1

Proportion of individuals using the Internet (%),2018

42,31%



37,49%

Source: National Socio Economic Survey 2018

The Connect 2020 Agenda for Development

Based on Agenda 2020
International Telecommunication Union (ITU),

- 55% of household
- 60% individuals

all over the world using the internet.

(Aurora A. Rubio, ITU Multi-Country Workshop, Myanmar 15-18 March 2016)

Indonesia position, 2018

66,22%

Household

39,90%

Individual

ICT Statistics in Indonesia

ICT CORE INDICATORS

Manual

- Core ICT Indicators 2010, UN
- Core ICT Indicators 2016, UN

Source of Data

- **IT Usage in Business Sector Survey, BPS** conducted 5 times since 2013
- **IT Usage in Education Sector Survey, BPS** conducted 5 times since 2013
- **National Social Economic Survey**

In 2019, IT usage in Business Sector Survey is integrated with Innovation Survey and Information & Communication Survey under **Business Characteristics Survey (BCS).** While data for education sector is not collected in 2019.

Core Indicators (Based on Core ICT Indicators 2010)	Number of indicators	Indicators Produced by BPS	Remarks
Core Indicators on ICT Infrastructure and Access	10	0	Data are mainly provided by Indonesia MCIT.
Core Indicators on access to, and use of, ICT by household and individuals	13	11	• 2 indicators were never collected due to survey limitation. • Some indicators were not collected every year.
Core indicators on use of ICT by business	12	12	Some indicators were not collected every year.
Core indicators on the ICT (producing) sector	2	0	ICT Stats. Division only provide business indicators to support National Accounts to calculate GDP of ICT Sector.
Core indicators on international trade in ICT goods	2	0	In the process of developing indicators.
Core indicators on ICT in Education	9	7	2 indicators were never collected due to survey limitation.
TOTAL	**48**	**30**	

ICT Development Index (IDI)

Manual

- Measuring Information Society Report, ITU

Notes:

- The latest methodology that was used in Indonesia IDI calculation is in MIS 2017.
- Indonesia is in the process of adopting the new method of IDI calculation.
- BPS already released 3 times since 2016. Next release will be December 2019.

Source of Data:

- National Social Economic Survey, BPS
- Administrative data from Indonesia MCIT
- ICT Skill data from BPS publication
- Population data projection from BPS publication

SUPPORTING DATA TO ITU

BPS

ITU Short Questionnaire for Household Indicator

- **HH4: Number of household with computer**
- **HH6: Number of household with internet access**
- **HH7: Total number of individuals using the internet**
- **HH18: Total number of individuals who own a mobile phone**
- **ICT Skill**
  - Copying or moving a file or folder, total individuals
  - Using copy and paste tools to duplicate or move information within a document, total individuals
  - Sending e-mails with attached files (e.g. document, picture, video), total individuals
  - Using basic arithmetic formulas in a spreadsheet, total individuals
  - Connecting and installing new devices (e.g. a modem, camera, printer), total individuals
  - Finding, downloading, installing and configuring software, total individuals
  - Creating electronic presentations with presentation software (including images, sound, video or charts), total individuals
  - Transferring files between a computer and other devices, total individuals
  - Writing a computer program using a specialized programming language, total individuals

ITU Long Questionnaire for Household Indicator

ICT short questionnaire indicators and additional indicators related ICT households in more details (by education, employment status, regional classification, gender)

SUPPORTING DATA TO ITU

MCIT of Indonesia

- ITU Short Questionnaire for Household Indicator
- ICT Price Basket
- ITU Long Questionnaire for Household Indicator

- International Internet Bandwidth in Mbit/s
- Percentage of the population covered by mobile-cellular network
- Percentage of the population covered by mobile network at least 3G
- Percentage of the population covered by mobile network at least LTE/WiMAX
- Fixed-broadband subscriptions (1+2+3)
  1. Fixed-broadband subscriptions by speed tiers - 256kbit/s to 2 mbit/s
  2. Fixed-broadband subscriptions by speed tiers - 2 to 10 mbit/s
  3. Fixed-broadband subscriptions by speed tiers - equal to or above 10 mbit/s
- Active mobile-broadband subscriptions
- Fixed-broadband Internet Traffic, exabytes
- Mobile-broadband Internet Traffic, exabytes
- Fixed Telephone Subscription
- Mobile Cellular Telephone Subscription

- Short Questionnaire Indicators for Telecommunication
- Additional telecommunication indicators (+-40 indicators)

IDI INDICATORS AND FORMULA

IDI Formula

$$IDI = 0{,}4AI + 0{,}4USE + 0{,}2SKILL$$

ICT Access & Infrastructure (AI)

1. **Fixed-telephone subscriptions per 100 inhabitants**
2. **Mobile-cellular telephone subscriptions per 100 inhabitants**
3. **International internet bandwidth (bit/s) per internet user**
4. **Percentage of households with a computer**
5. **Percentage of households with internet access**

ICT Use (USE)

6. **Percentage of individuals using the internet**
7. **Fixed-broadband subscriptions per 100 inhabitants**
8. **Active mobile-broadband subscriptions per 100 inhabitants**

ICT Skill (SKILL)

9. **Mean years of schooling**
10. **Secondary gross enrolment ration**
11. **Tertiary gross enrolment ration**

IDI scale: 0-10.

The higher the index value indicates the potential and progress of ICT development in a region is more optimum, conversely, the lower the index value indicates that ICT development in an area is still not optimum.

Source of Data:

- BPS: National Socio-Economic Survey (SUSENAS), Educational Statistics Sub-Directorate, Demographic Statistics Sub Directorate.
- Secondary data from the Ministry of Communication and Information

Sub-index 1
ICT Access and Infrastructure

N0	INDICATOR	DATA	SOURCE OF DATA		NOTE
			NATIONAL	PROVINCE	
1.	Fixed-telephone subscription per 100 inhabitants	Number of Fixed Telephone Subscribers	MCIT	Estimation	
		Population of Indonesia	Sub-directorate of demographic statistics, BPS	Sub-directorate of demographic statistics, BPS	
2.	Mobile-cellular telephone subscriptions per 100 inhabitants	Number of Mobile-cellular telephone Subscribers	MCIT	Estimation	
		Population of Indonesia	Sub-directorate of demographic statistics, BPS	Sub-directorate of demographic statistics, BPS	

Sub-index 1
ICT Access and Infrastructure

N0	INDICATOR	DATA	SOURCE OF DATA		NOTE
			NATIONAL	PROVINCE	
3.	International internet bandwidth (bit/s) per internet user	International internet bandwidth (bit/s)	MCIT	Estimation	
		Internet user	National Socio Economic Survey, BPS	National Socio Economic Survey, BPS	
4.	Percentage of households with a computer	Percentage of households with a computer	National Socio Economic Survey, BPS	National Socio Economic Survey, BPS	Complete
5.	Percentage of households with internet access	Percentage of households with internet access	National Socio Economic Survey, BPS	National Socio Economic Survey, BPS	Complete

Sub-index 2
ICT Use

N0	INDICATOR	DATA	SOURCE OF DATA		NOTE
			NATIONAL	PROVINCE	
6	Percentage of individuals using the internet	Percentage of individuals using the internet	National Socio Economic Survey, BPS	National Socio Economic Survey, BPS	Complete
7.	Fixed (wired)-broadband subscriptions per 100 inhabitants	Number of Fixed (wired)-broadband subscriptions	MCIT	Estimation	
		Population of Indonesia	National Socio Economic Survey, BPS	National Socio Economic Survey, BPS	
8.	Wireless-broadband subscription per 100 inhabitants	Number of Wireless-broadband subscription	MCIT	Estimation	
		Population of Indonesia	National Socio Economic Survey, BPS	National Socio Economic Survey, BPS	

Sub-index 3
ICT Skill

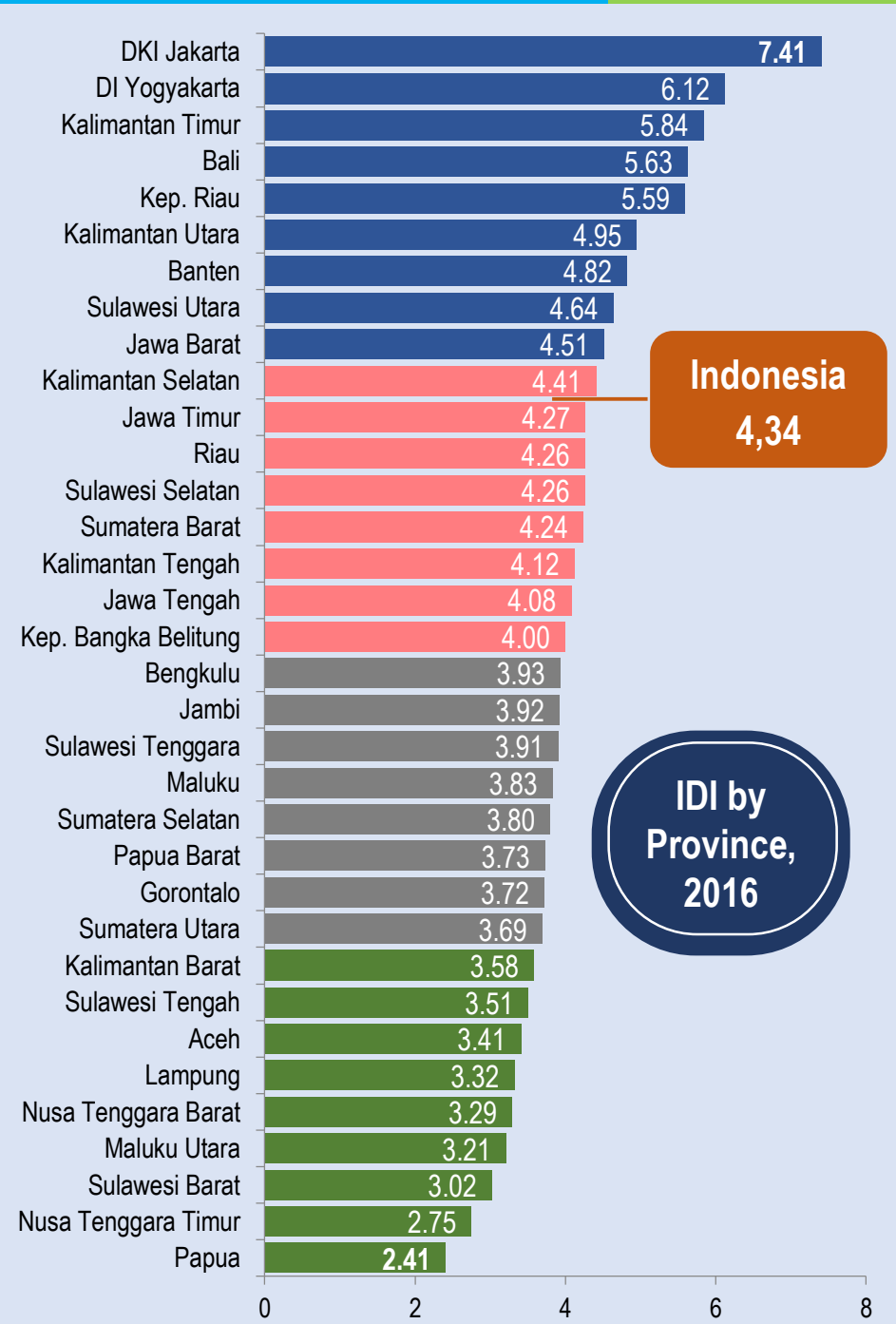
N0	INDIKATOR	DATA	SOURCE OF DATA		NOTE
			NATIONAL	PROVINCE	
9.	Mean years of Schooling	Mean years of Schooling	Sub-directorate of Education Statistics, BPS	Sub-directorate of Education Statistics, BPS	Complete
10.	Secondary gross enrolment ratio	Secondary gross enrolment ratio	Sub-directorate of Education Statistics, BPS	Sub-directorate of Education Statistics, BPS	Complete
11.	Tertiary gross enrollment ratio	Tertiary gross enrollment ratio	Sub-directorate of Education Statistics, BPS	Sub-directorate of Education Statistics, BPS	Complete

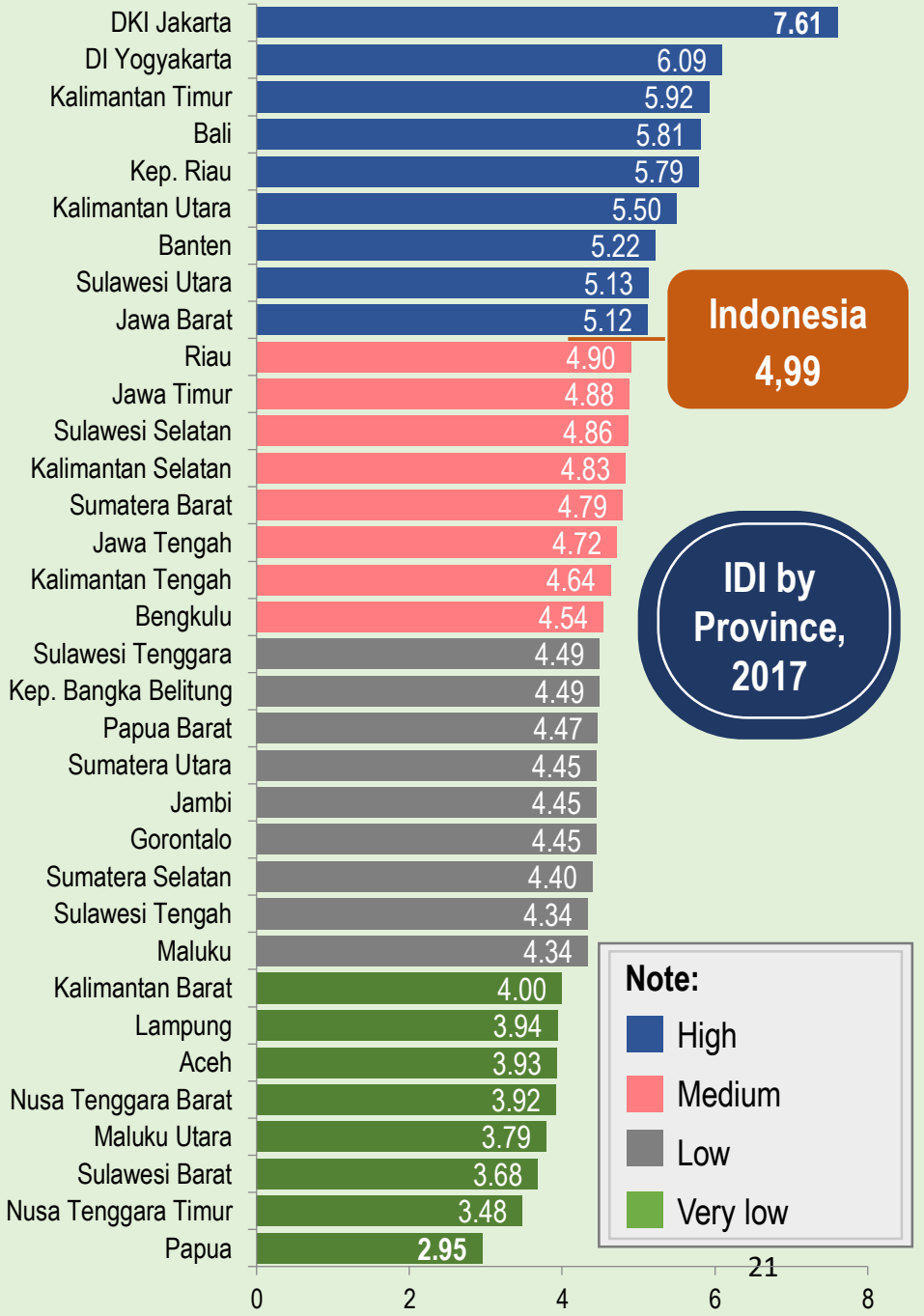
INDONESIA IDI, 2015 – 2017

The 2017 Indonesian IDI is 4.99
increased compared to IDI in 2016 which amounted to 4.34.

Sub-index	IDI 2015	IDI 2016	IDI 2017
Access and Infrastructure	4,81	4,88	5,16
Use	2,21	3,19	4,44
Skill	5,38	5,54	5,75
IDI	**3,88**	**4,34**	**4,99**
IDI (ITU version)	**3,85*)**	**4,33*)**	**-**)**

IIDI Scale: 0-10
*) Listed in the 2017 Measuring Information Society Report
**) ITU has not released the 2017 ICT Development Index


DKI Jakarta 7.41
DI Yogyakarta 6.12
Kalimantan Timur 5.84
Bali 5.63
Kep. Riau 5.59
Kalimantan Utara 4.95
Banten 4.82
Sulawesi Utara 4.64
Jawa Barat 4.51
Kalimantan Selatan 4.41
Jawa Timur 4.27
Riau 4.26
Sulawesi Selatan 4.26
Sumatera Barat 4.24
Kalimantan Tengah 4.12
Jawa Tengah 4.08
Kep. Bangka Belitung 4.00
Bengkulu 3.93
Jambi 3.92
Sulawesi Tenggara 3.91
Maluku 3.83
Sumatera Selatan 3.80
Papua Barat 3.73
Gorontalo 3.72
Sumatera Utara 3.69
Kalimantan Barat 3.58
Sulawesi Tengah 3.51
Aceh 3.41
Lampung 3.32
Nusa Tenggara Barat 3.29
Maluku Utara 3.21
Sulawesi Barat 3.02
Nusa Tenggara Timur 2.75
Papua 2.41
Indonesia 4,34
IDI by Province, 2016
0
2
4
6
8


DKI Jakarta 7.61
DI Yogyakarta 6.09
Kalimantan Timur 5.92
Bali 5.81
Kep. Riau 5.79
Kalimantan Utara 5.50
Banten 5.22
Sulawesi Utara 5.13
Jawa Barat 5.12
Riau 4.90
Jawa Timur 4.88
Sulawesi Selatan 4.86
Kalimantan Selatan 4.83
Sumatera Barat 4.79
Jawa Tengah 4.72
Kalimantan Tengah 4.64
Bengkulu 4.54
Sulawesi Tenggara 4.49
Kep. Bangka Belitung 4.49
Papua Barat 4.47
Sumatera Utara 4.45
Jambi 4.45
Gorontalo 4.45
Sumatera Selatan 4.40
Sulawesi Tengah 4.34
Maluku 4.34
Kalimantan Barat 4.00
Lampung 3.94
Aceh 3.93
Nusa Tenggara Barat 3.92
Maluku Utara 3.79
Sulawesi Barat 3.68
Nusa Tenggara Timur 3.48
Papua 2.95
Indonesia 4,99
IDI by Province, 2017
Note:
High
Medium
Low
Very low
0
2
4
6
8

Issues And Challenges

ISSUES

ICT Development Index (IDI)	• The data availability in IDI provincial level are limited. • The method of grouping provincial IDI is not firm yet.
ICT Core Indicators	• Respondent burden
SDG's	• SDG's indicators are available in certain level only (eg: province)

CHALLENGES

ICT Development Index (IDI)	• Providing IDI of Indonesia at national and sub-national level using latest methodology (14 indicators)
ICT Core Indicators	• Providing ICT core indicators to be more accurate and complete. • Providing ICT Skills • Designing survey and questionnaire to be less respondent burden.
SDG's	• Providing SDG's indicators in smaller area, such as city/districts. Eg: Small Area Estimation (SAE)

BADAN PUSAT STATISTIK

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Terima Kasih
Thank You

kti@bps.go.id
andri@bps.go.id

The Agent of Trustworthy Statistical Data for All