



STATISTICS INDONESIA



A Closer Look at the ICT Development Index: “A Case of Indonesia”

*Presented in forum of
ITU Multi Country Training Workshop for
National Focal Points on ICT Indicators and Measurements
Myanmar, 15-18 March 2016*

By:

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OUTLINE



ICT Development in Indonesia

Data Sources for ICT Development Index

**ICT Development Index &
Socio-Economic Indicators**



ICT Development in Indonesia

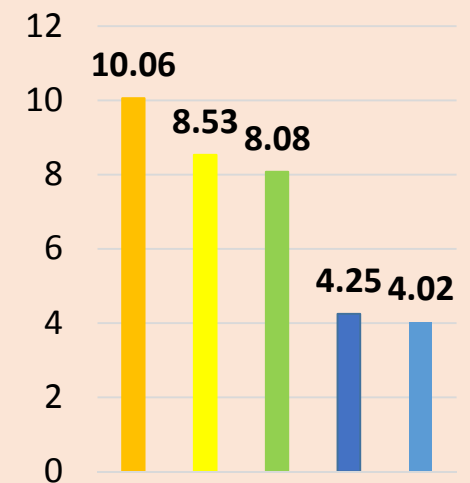
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Information
Society Era

Needs of
Information
Exchange:
increased

Internet
Access needs
to be **faster**

GDP Growth: share
by Some Industrial
Sector, 2015



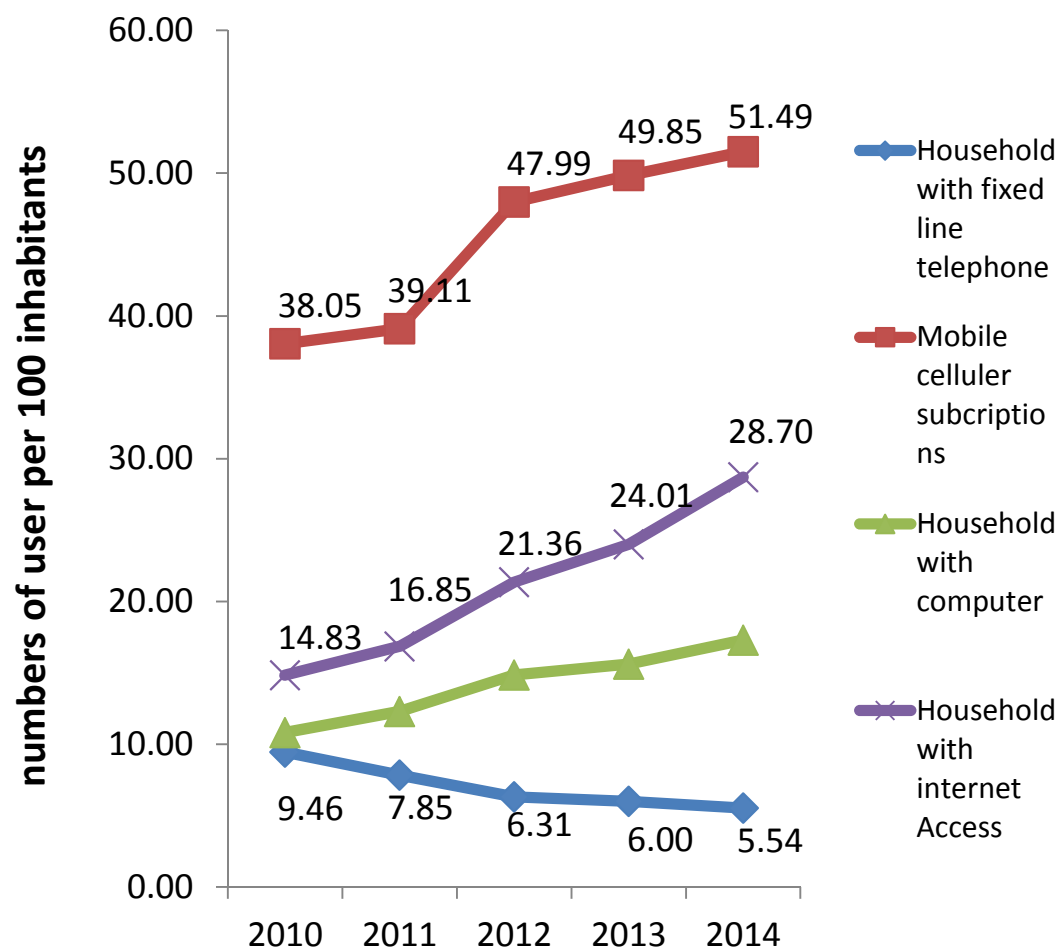
1. ICT can accelerate GDP growth:
Intensive use of ICT by business sector, government sector, and household sector;
2. Shifting from mobile cellular towards mobile internet access;
3. Rapidly exchange information at anytime, anywhere, and to anyone;
4. Phenomenon of Digital Divide in Indonesia:
Gap of ICT Development level among regions and within region in Indonesia



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1. ICT Access & Infrastructure



1. Fixed-telephone subscriptions
2. Mobile-cellular telephone subscriptions
3. Percentage of household with computer
4. Percentage of household with internet access

Note:

5. International Internet Bandwidth per internet user is not presented in this graph. It is processed from MCIT data.

✓ In 2014, it is about 6"225 (bit/s)

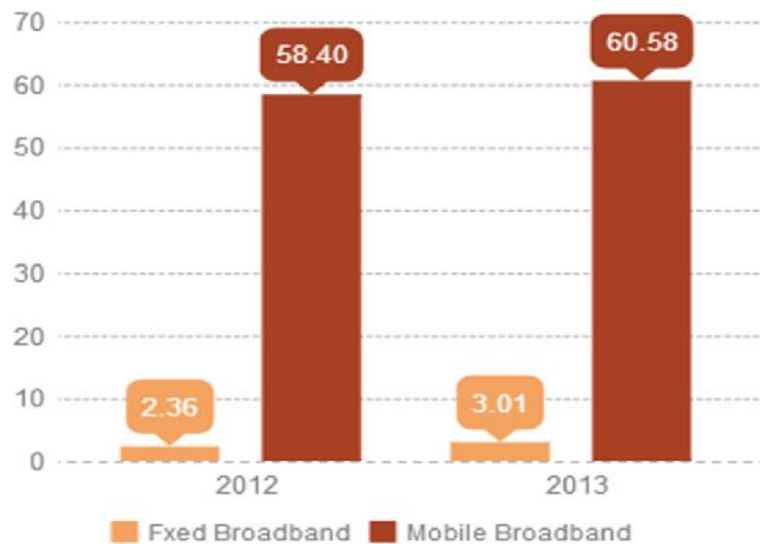
Data Source: BPS, Indonesia Telecommunication Statistics 2014 (based on SUSENAS 2014)



2. ICT Use

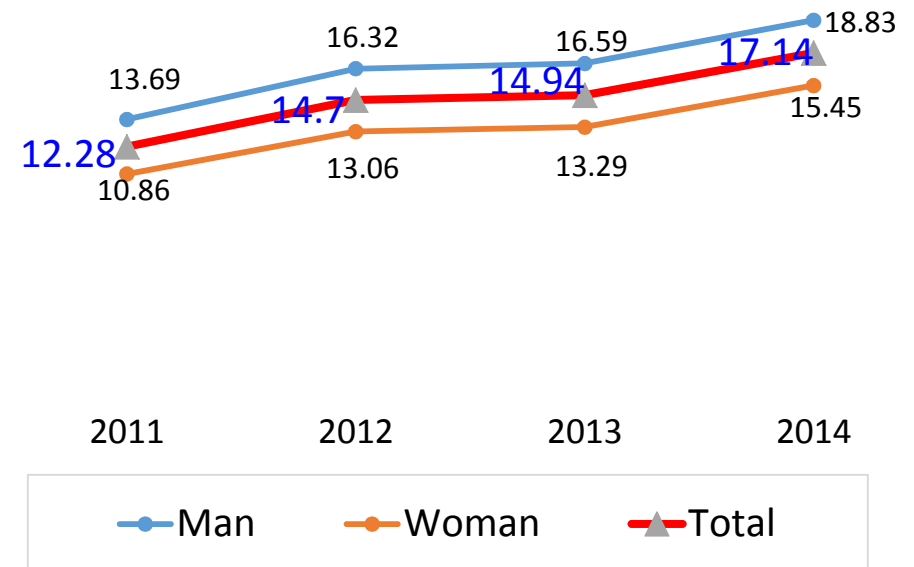
- 6. Percentage of individuals using the internet
- 7. Fixed (wired)-broadband subscriptions
- 8. Wireless-broadband subscriptions

Fixed Broadband & Mobile Broadband subscription (in million)



Source: MCH, Republic of Indonesia

Internet User by GENDER



In 2014, 18.83% of men in Indonesia access the internet



Only 15.45% women (5 years old and more) who access the internet in 2014

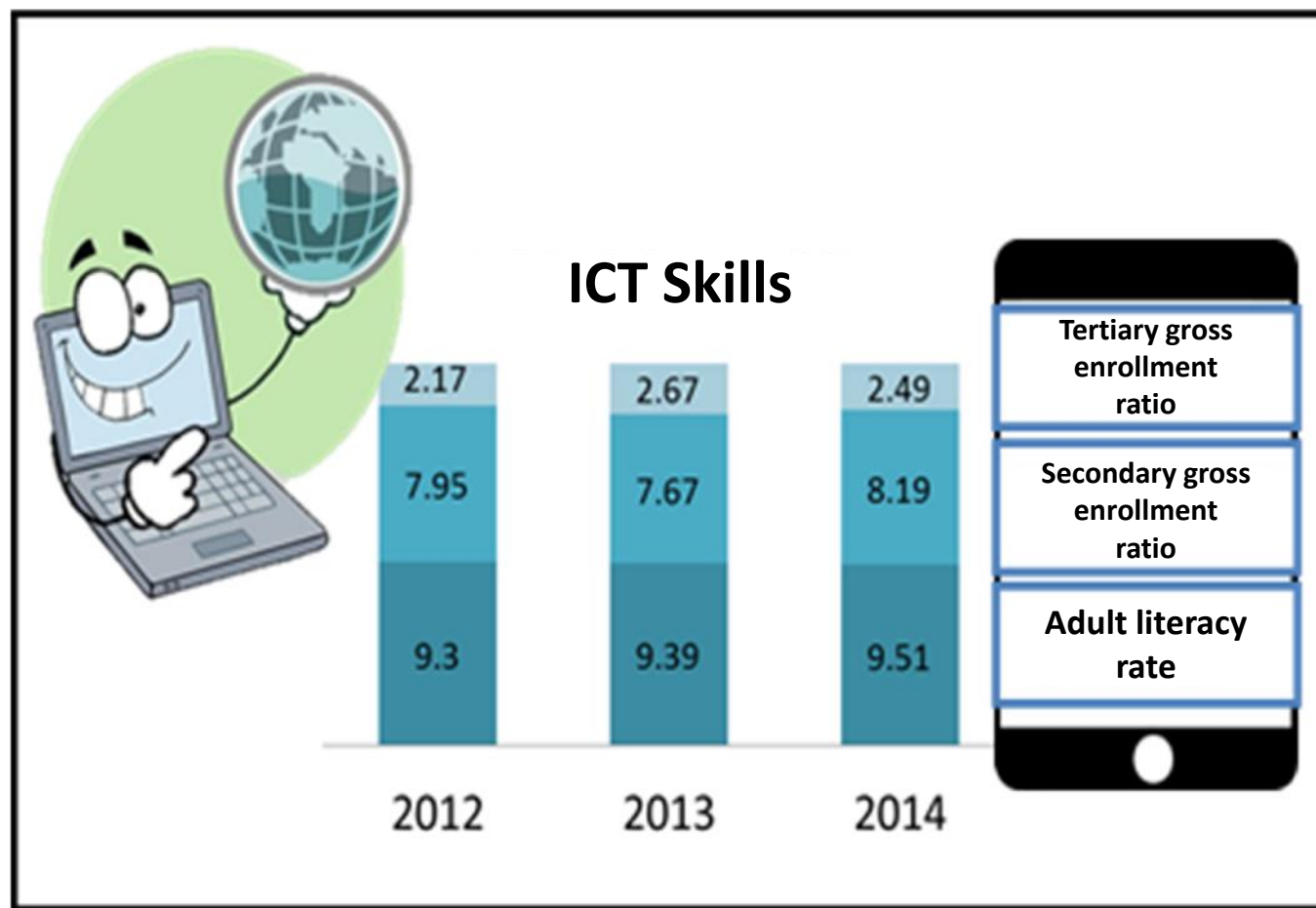


Source: BPS, Telecommunication Statistics (based on Susenas 2014)



3. ICT Skills

- 9. Adult literacy rate
- 10. Secondary gross enrollment ratio
- 11. Tertiary gross enrollment ratio



Data Source: BPS, Education Statistics 2014 (based on SUSENAS 2014)

Adult literacy rate and secondary gross enrollment ratio had good and high achievements during 2012–2014. On the other hand, the achievement of tertiary gross enrollment ratio was low.



DATA SOURCES FOR ICT DEVELOPMENT INDEX

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No.	Indicator	Data Source
1.	Fixed-telephone subscription per 100 inhabitants	Ministry of Communication and Information Technology (MCIT)
		BPS, National Socio-Economic Survey (Susenas)
2.	Mobile-cellular telephone subscriptions per 100 inhabitants	BPS, Susenas
3.	<i>International internet bandwidth (bit/s) per internet user</i>	MCIT
		BPS, Susenas
4.	Percentage of household with computer	BPS, Susenas
5.	Percentage of household with internet access	BPS, Susenas
6.	Percentage of individuals using the internet	BPS, Susenas
7.	Fixed (wired)-broadband subscriptions per 100 inhabitants	MCIT
		BPS, Susenas
8.	Wireless-broadband subscriptions per 100 inhabitants	MCIT
		BPS, Susenas
9.	Adult literacy rate	BPS, Susenas
10.	Secondary gross enrollment ratio	BPS, Susenas
11.	Tertiary gross enrollment ratio	BPS, Susenas



Rank of Indonesia IDI in the World, 2012-2014:

IDI level of Indonesia in "MIDDLE" position:

Encourage Gov to put more effort to improve ICT Dev

2012

106 out of 166 countries

2013

106th out of 166 countries

2014

108th out of 167 countries

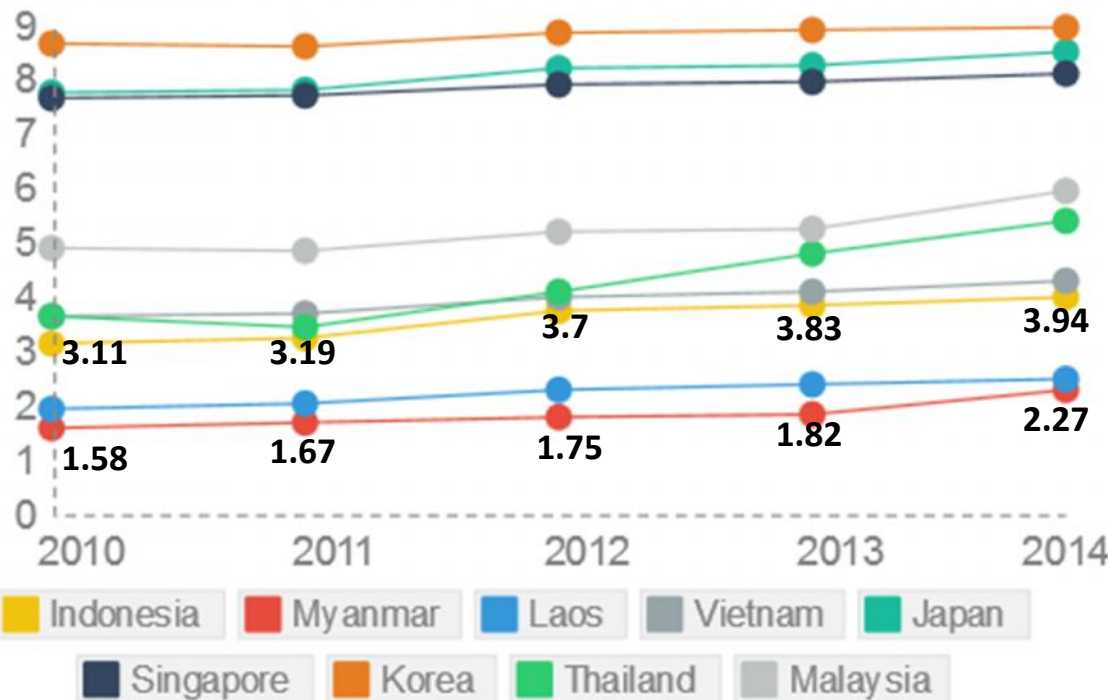


Comparison of Value & Rank of Indonesia IDI Sub-index, and Selected Countries, 2014

Countries	Access		Use		Skill		Value	Rank
	Value	Rank	Value	Rank	Value	Rank		
(1)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
South Korea	9,00	9	8,42	4	9,82	2	8.93	1
Singapore	8,64	14	7,61	16	7,93	59	8.08	19
Myanmar	2.47	156	0.58	151	5.22	123	2.27	142
Laos	3.03	137	0.64	144	4.94	130	2.45	138
Malaysia	6,61	63	4,76	58	6,57	101	5.9	64
Thailand	5,20	92	4,28	64	7,83	64	5.36	74
Indonesia	4,60	102	1,79	114	6,93	96	3.94	108



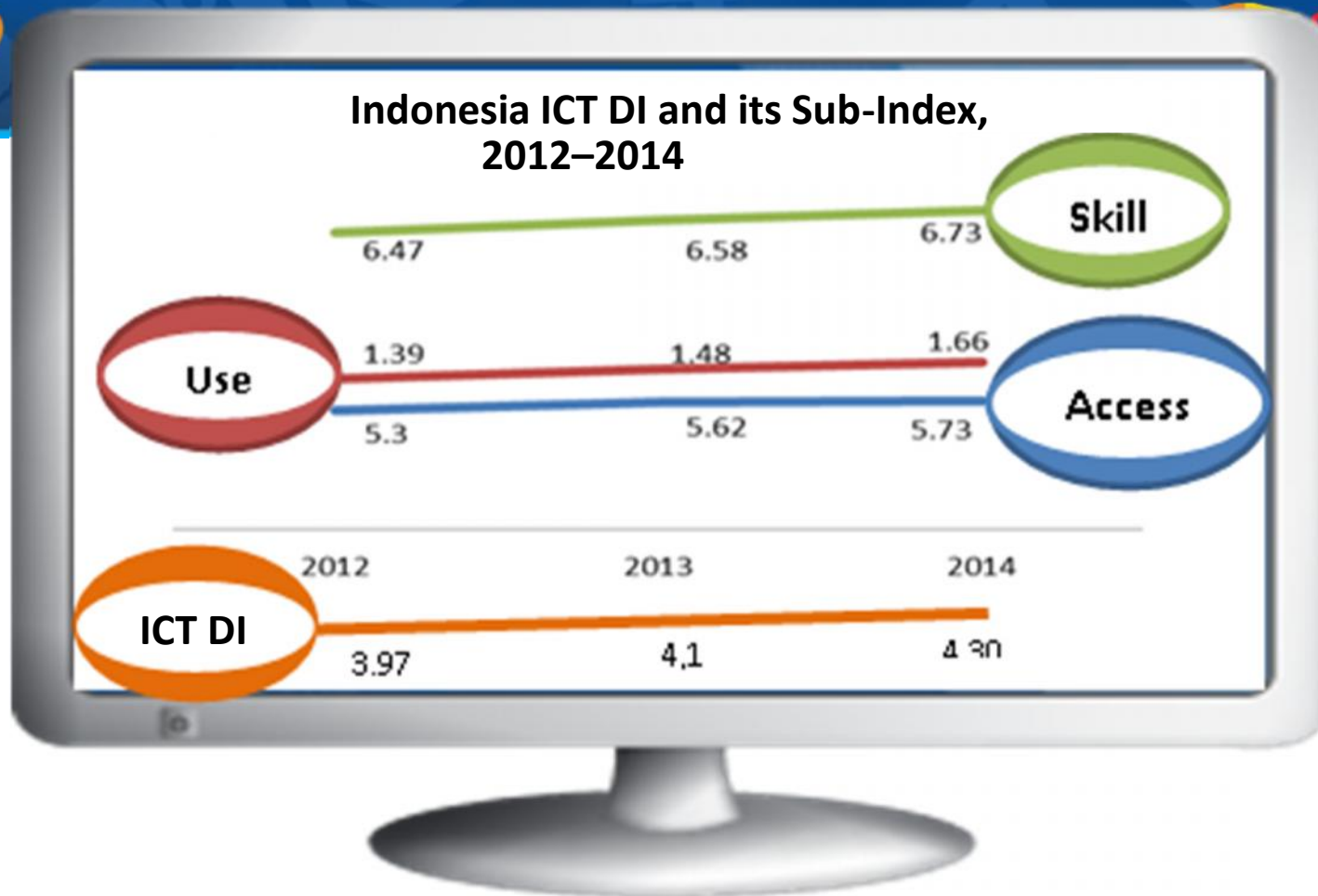
ICT Development Disparity



ICT Development Index 2010-2014

In Asia, the highest ICT development level was Korea.

The position of Indonesia was above Myanmar and Laos.



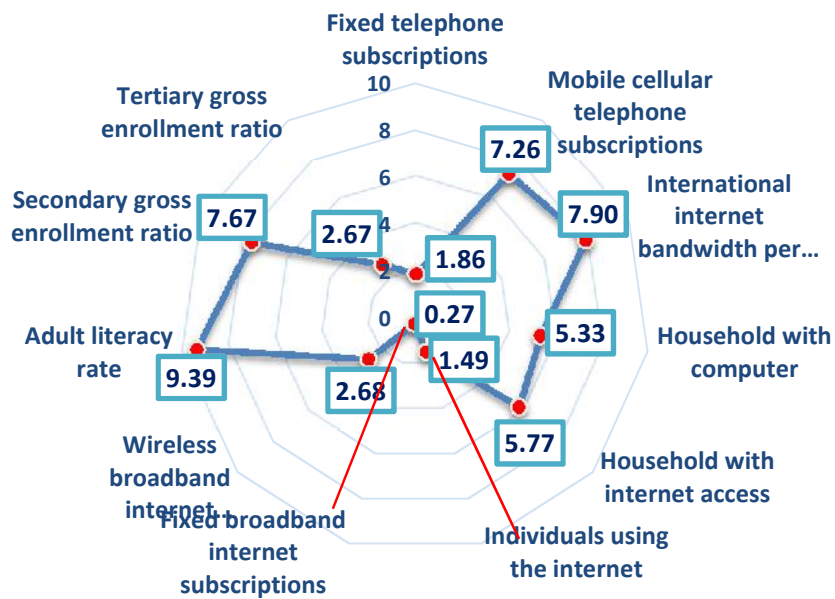
- ICT use, ICT skill, and ICT access increased year by year during 2012–2014.
- ICT skill has the highest contribution to ICT Development Index in Indonesia.



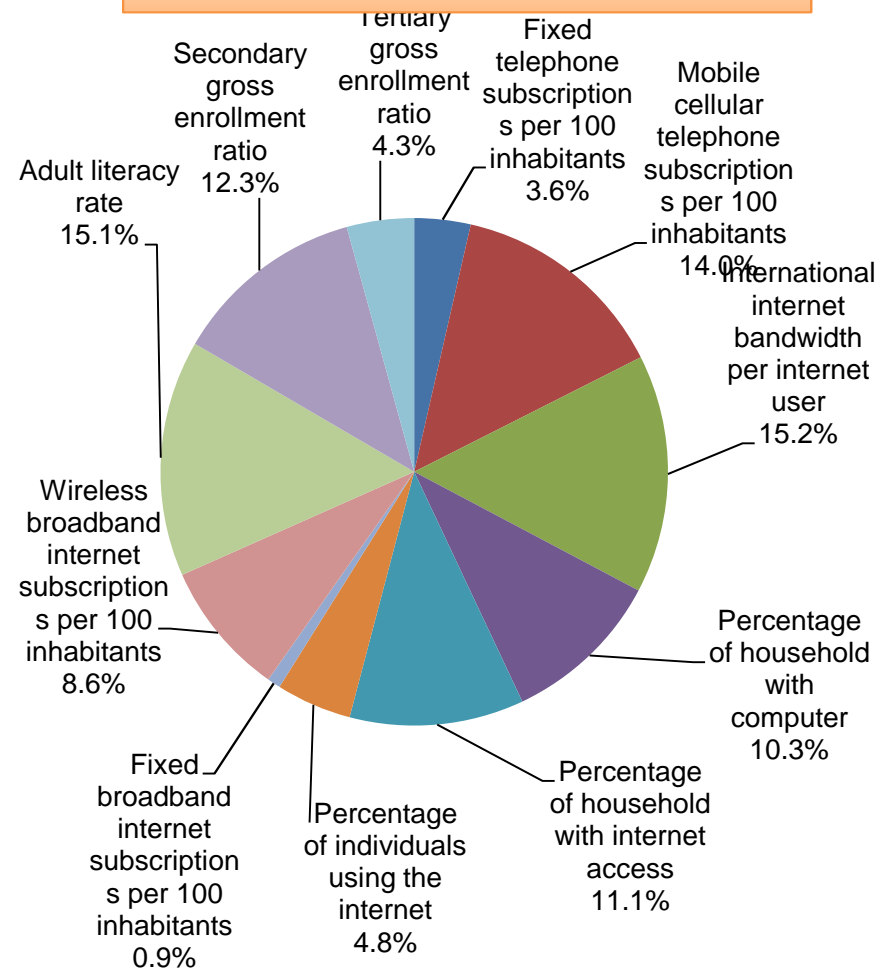
Indonesia ICT Development Index 2013

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Achievement



Contribution to ICT DI





ICT Development Index & Socio-Economic Indicators

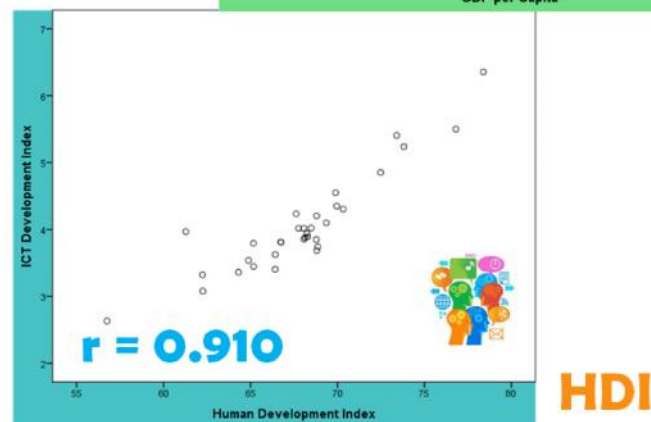
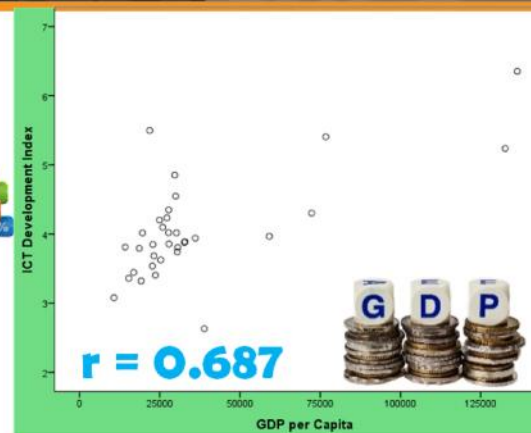
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Spearman Rank Correlation between sub-national IDI and other indicators:

1. IDI vs HDI : 0.829
2. IDI vs GDP per Capita: 0.202
3. IDI vs Poverty (Percentage of Poor People):
-0.601

- ICT DI has strong and positive relationship with GDP per capita based on Pearson correlation.
- ICT DI has strong and positive relationship with HDI.
- ICT DI has negative relationship with poverty.

ICT DI





IDI will accelerate *Economic Growth of ICT Industry*

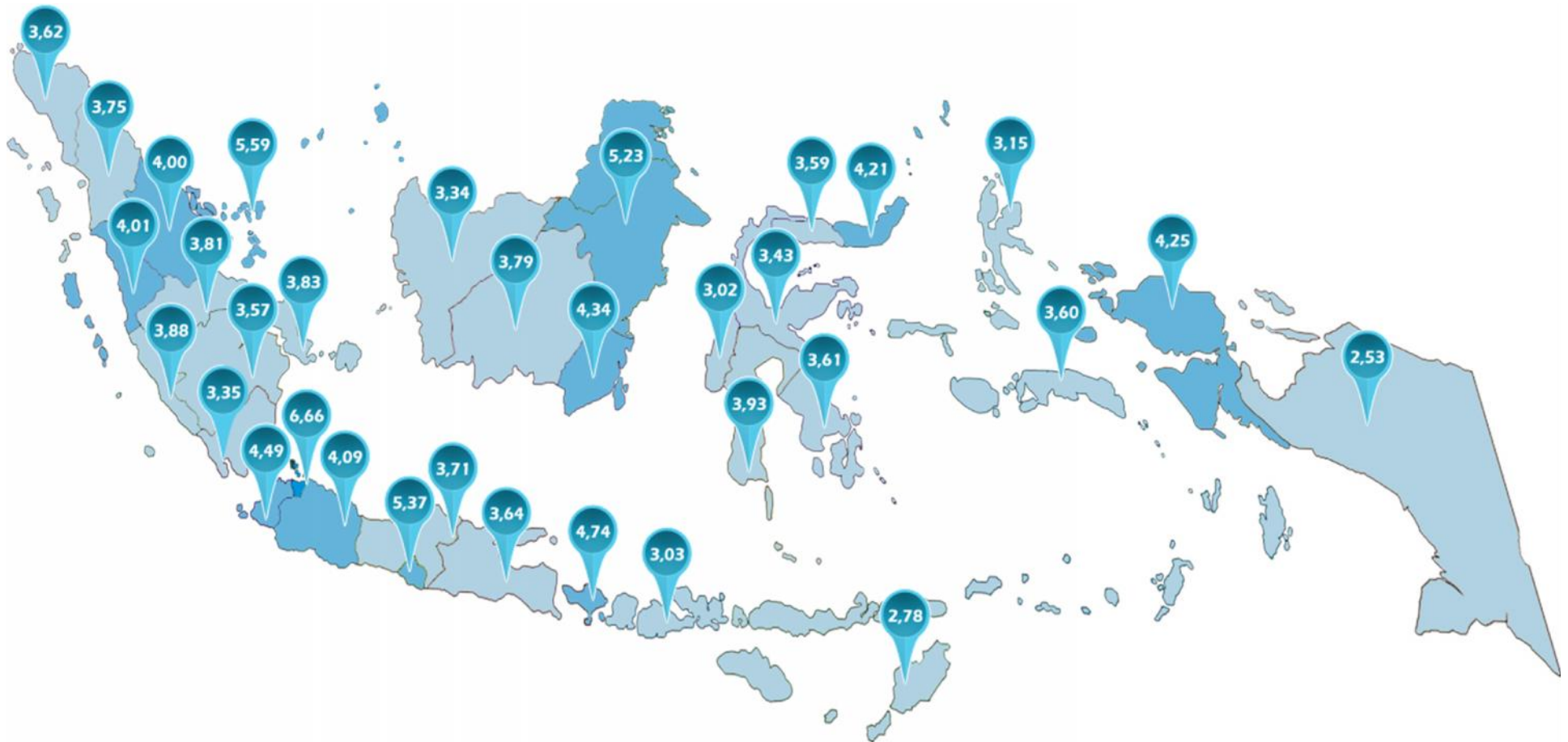





The growth of *ICT Development Index (IDI)* 1 point index, will accelerate value added of *ICT industry in GDP* by 2.873%

Equation of the model:

$$\text{Economic Growth ICT Industry} = 8,855 + 2.873 \text{ IDI}$$

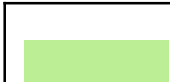


IDI OF SUB-NATIONAL LEVEL in Indonesia, 2012



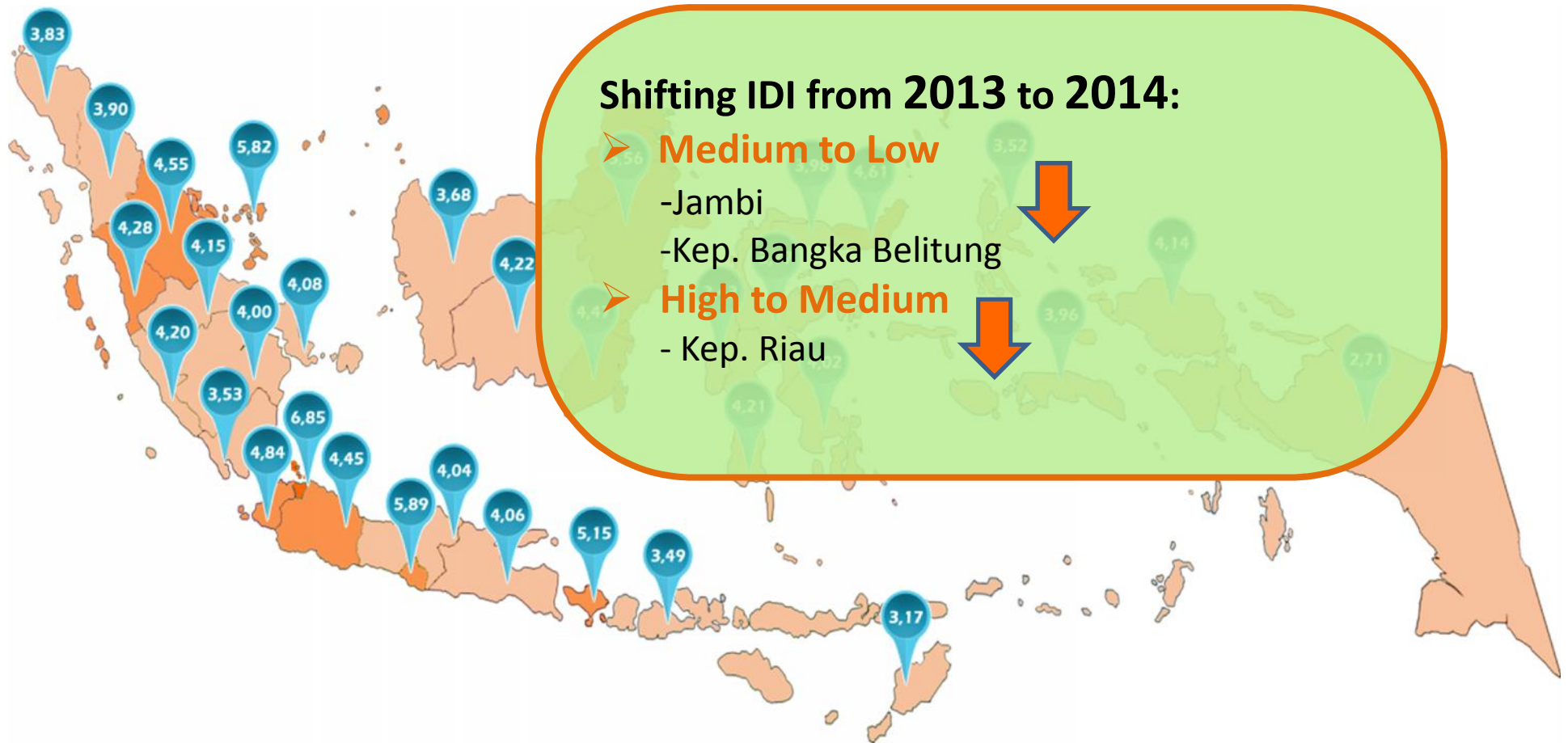
	Low	:	Aceh, Sumatera Utara, Jambi, Sumatera Selatan, Bengkulu, Lampung, Kep. Bangka Belitung, Jawa Tengah, Jawa Timur, Nusa Tenggara Barat, Nusa Tenggara Timur, Kalimantan Barat, Kalimantan Tengah, Sulawesi Tengah, Sulawesi Selatan, Sulawesi Tenggara, Gorontalo, Sulawesi Barat, Maluku, Maluku Utara, Papua
	Medium	:	Sumatera Barat, Riau, Kepulauan Riau, Jawa Barat, DI Yogyakarta, Banten, Bali, Kalimantan Selatan, Kalimantan Timur, Sulawesi Utara, Papua Barat
	High	:	DKI Jakarta




IDI OF SUB-NATIONAL LEVEL in Indonesia, 2013



	Low	:	Aceh, Sumatera Utara, Sumatera Selatan, Bengkulu, Lampung, Jawa Tengah, Jawa Timur, Nusa Tenggara Barat, Nusa Tenggara Timur, Kalimantan Barat, Kalimantan Tengah, Sulawesi Tengah, Sulawesi Selatan, Sulawesi Tenggara, Gorontalo, Sulawesi Barat, Maluku, Maluku Utara, Papua Barat, Papua
	Medium	:	Sumatera Barat, Riau, Jambi, Kep. Bangka Belitung, Jawa Barat, DI Yogyakarta, Banten, Bali, Kalimantan Selatan, Kalimantan Timur, Sulawesi Utara
	High	:	Kepulauan Riau, DKI Jakarta

IDI OF SUB-NATIONAL LEVEL in Indonesia, 2014

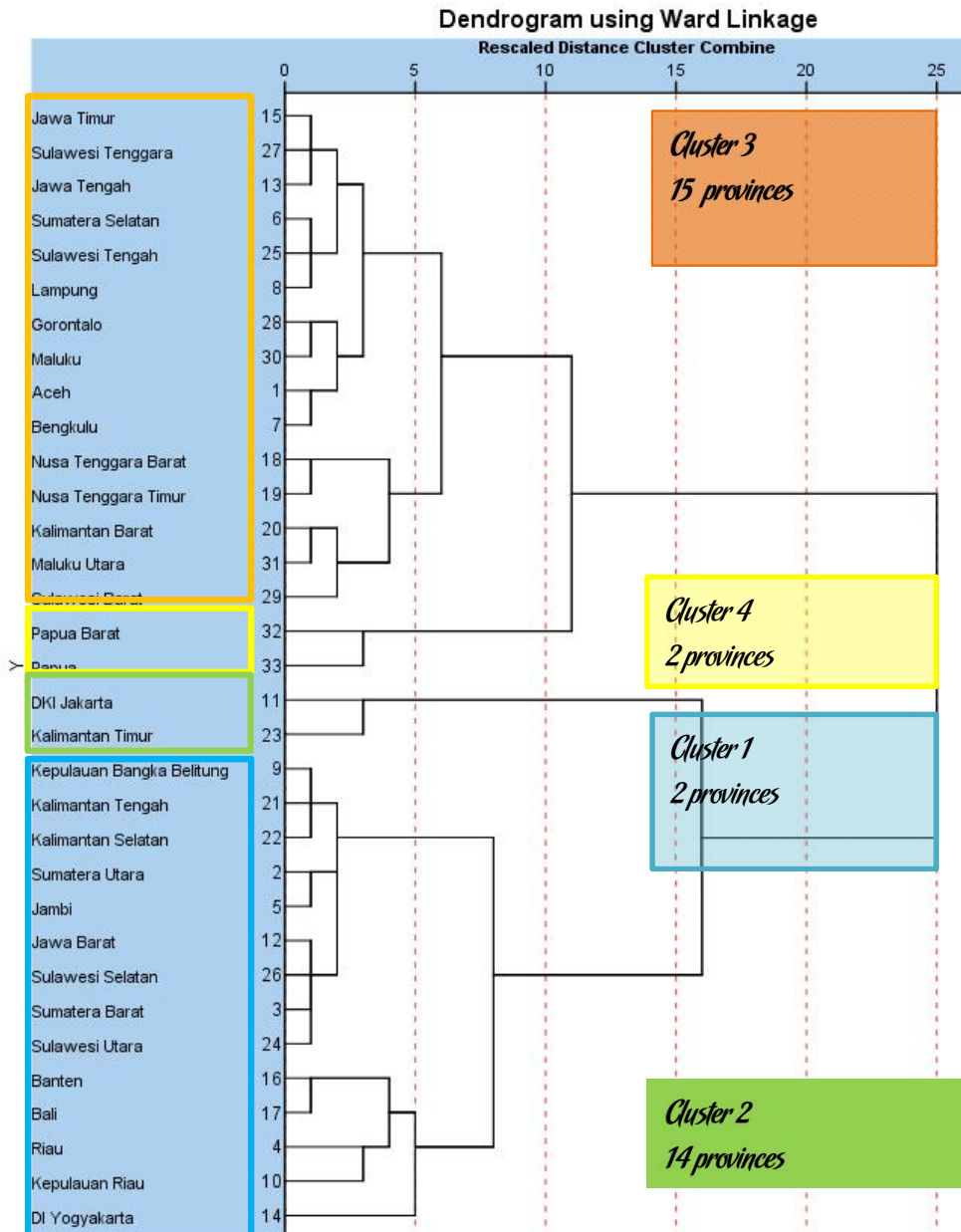


	Low	:	Aceh, Sumatera Utara, Jambi, Sumatera Selatan, Bengkulu, Lampung, Kep. Bangka Belitung, Jawa Tengah, Jawa Timur, Nusa Tenggara Barat, Nusa Tenggara Timur, Kalimantan Barat, Kalimantan Tengah, Sulawesi Tengah, Sulawesi Selatan, Sulawesi Tenggara, Gorontalo, Sulawesi Barat, Maluku, Maluku Utara, Papua Barat, Papua
	Medium	:	Sumatera Barat, Riau, Kepulauan Riau, Jawa Barat, DI Yogyakarta, Banten, Bali, Kalimantan Selatan, Kalimantan Timur, Sulawesi Utara
	High	:	DKI Jakarta



Disparity Between Provinces: Digital Divide Phenomenon in Indonesia (2014)

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- Cluster analysis divides 33 provinces in Indonesia based on 4 variables into 4 clusters:
 - GDP per Capita
 - HDI
 - ICT Development Index
 - Percentage of Poor People
- Each cluster has their own characteristics based on 4 variables. Provinces in the same clusters have similar characteristics.
- For example, cluster 1 has high GDP per capita, high HDI, high ICT DI, and low percentage of poor people.
- Cluster 4 has low GDP per capita, low HDI, low, ICT DI, and high percentage of poor people.



CONCLUSION

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IDI: need more understanding and concern

1. IDI is a very sensitive index
 - Depending on **data source**
 - Depending on definition in collecting data
 - Depending on **ideal value**
 - Depending on area, **national vs sub-national**
2. IDI is a composite Index, the figures:
 - ✓ Depend on each component index
 - ✓ Depend on the weight
3. Importance of IDI
 - Indicator of country performances
 - Policy evaluation in ICT Development
 - Could be use to promote economic growth acceleration
 - Have significant relationship with some socio-economic indicators
4. IDI of Indonesia at Sub-National Level:
 - ✓ The more urban the region, the higher the IDI
 - ✓ Limitation of data sources for computing 11 ICT Indicators, esp. for International Internet Bandwidth, and fixed and wireless Broadband subscriptions

Thank You

Any questions and suggestion, email to:
elen@bps.go.id
kti@bps.go.id

The Agent of Trustworthy Statistical Data for All





ICT DI Value and Rank of Some Countries (2007, 2008, 2010)

Country	2007		2008		2010	
	Value	Rank	Value	Rank	Value	Rank
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Korea (Rep.)	7.23	2	7.8	1	8.4	1
Sweden	7.27	1	7.53	2	8.21	2
Iceland	7.06	4	7.12	7	7.96	4
Denmark	7.18	3	7.46	3	8.01	3
Finland	6.7	11	6.92	12	7.89	5
Australia	6.51	14	6.78	14	6.75	21
Jepang	6.89	7	7..01	11	7.75	8
Singapore	6.47	15	6.71	15	7.47	10
Brunei D	4.77	42	4.97	44	4.85	52
Malaysia	3.66	55	3.96	57	4.63	57
Vietnam	2.61	93	2.76	91	3.41	86
Thailand	3.03	75	3.03	80	3.29	89
Indonesia	2.15	108	2.39	107	3.01	97
Philipine	2.61	95	2.69	95	3.04	94
Cambodia	1.52	121	1.63	120	1.88	119
Lao PDR	1.6	117	1.64	119	1.84	120
Myanmar	1.6	118	-	-	1.65	129
Total Negara		159		152		155



ICT DI Value and Rank of Some Countries (2011-2014)

Country	2011		2012		2013		2014	
	Value	Rank	Value	Rank	Value	Rank	Value	Rank
(1)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
Korea (Rep.)	8.51	1	8.81	1	8.85	2	8.93	1
Sweden	8.41	2	8.68	3	8.67	3	8.67	5
Iceland	8.12	4	8.58	4	8.64	4	8.86	3
Denmark	8.18	3	8.78	2	8.86	1	8.88	2
Finland	7.99	5	8.27	8	8.27	8	8.36	12
Australia	7.54	15	8.03	12	8.18	12	8.29	13
Jepang	7.77	8	8.15	10	8.22	11	8.47	11
Singapore	7.55	14	7.85	15	7.9	16	8.08	19
Brunei D	4.93	56	5.36	63	5.43	66	5.53	71
Malaysia	4.81	59	5.18	66	5.2	71	5.9	64
Vietnam	3.65	86	3.8	88	4.09	101	4.28	102
Thailand	3.42	94	3.94	99	4.76	81	5.36	74
Indonesia	3.14	97	3.7	106	3.83	106	3.94	108
Philipine	3.14	98	3.91	102	4.02	103	4.57	98
Cambodia	2.05	121	2.54	127	2.61	127	2.74	120
Lao PDR	1.99	122	2.25	130	2.35	134	2.45	138
Myanmar	1.7	132	1.75	148	1.82	150	2.27	142
Total Negara		157		166		166		167



Indonesia ICT Development Index Value and Rank

Year	Value	Rank
(1)	(2)	(3)
2002	1.54	109 (154 countries)
2007	2.15	108 (159 countries)
2008	2.39	107 (152 countries)
2010	3.01	97 (155 countries)
2011	3.14	97 (157 countries)
2012	3.70	106 (166 countries)
2013	3.83	106 (166 countries)
2014	3.94	108 (167 countries)

Source: *Measuring The Information Society Publication, ITU*



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No.	Indicator	Data Source	Data Type	Explanation
ICT Access & Infrastructure Sub Index				
1.	Fixed-telephone subscription per 100 inhabitants	Ministry of Communication and Information Technology (MCIT)	The number of fixed-telephone subscription (Annual report of telecommunication operator)	
		National Socio-Economic Survey	Household with telephone (sum and proportion) (VSEN13.K Blok VIII Rincian 1)	As a tool for breaking down into provincial level.
2.	Mobile-cellular telephone subscriptions per 100 inhabitants	National Socio-Economic Survey	The number of inhabitants with active mobile-cellular telephone (VSEN13.K Blok VIII Rincian 2b)	



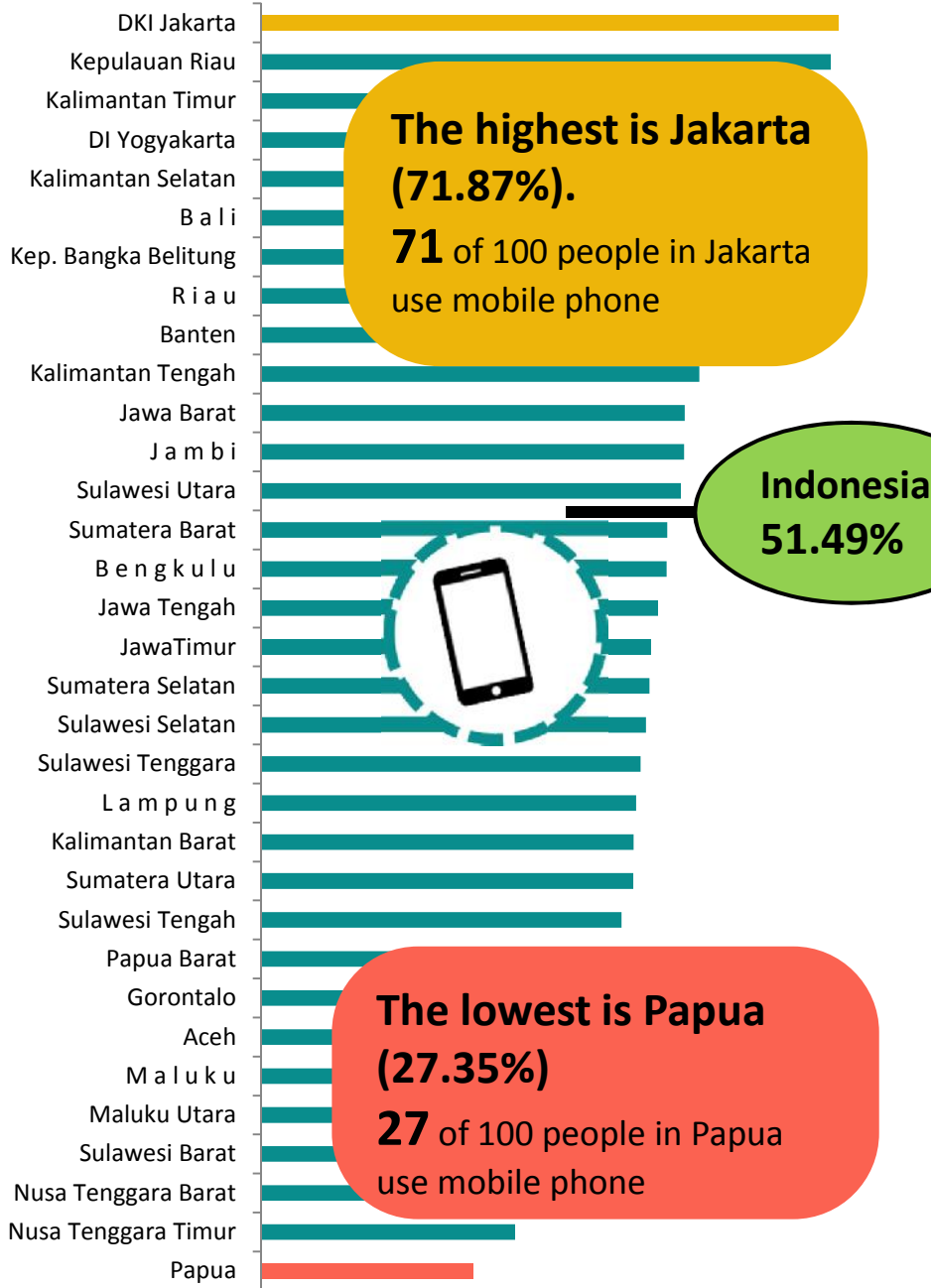
No.	Indicator	Data Source	Data Type	Explanation
3.	<i>International internet bandwidth (bit/s) per internet user</i>	MCIT	<i><u>International</u> internet bandwidth</i>	
		National Socio-Economic Survey	Inhabitants who have internet access in every locations (VSEN13.K Blok V.C Rincian 20)	As denominator (the number of internet user)
4.	Percentage of household with computer	National Socio-Economic Survey	Percentage of household with/mastering computer (VSEN13.K Blok VIII Rincian 3)	
5.	Percentage of household with internet access	National Socio-Economic Survey	Percentage of household with 1 or more member access internet at home or via mobile phone (VSEN13.K Blok V.C Rincian 21 kode 1 & kode 5)	Individual data approach, individual who access internet at home and via mobile phone, then it is aggregated to household level

No.	Indicator	Data Source	Data Type	Explanation
ICT Use Sub Index				
6.	Percentage of individuals using the internet	National Socio-Economic Survey	Percentage of inhabitants with internet access in every locations (VSEN13.K Blok V.C Rincian 20)	
7.	Fixed (wired)-broadband subscriptions per 100 inhabitants	Ministry of Communication and Information	The number of <i>fix broadband</i> internet customer	Leased line & xDSL
		National Socio-Economic Survey	Percentage of inhabitants with internet access at home, office, school, and internet cafe (VSEN13.K Blok V.C Rincian 21 kode 1 s/d kode 4)	As a tool for breaking down into provincial level.
8.	Wireless-broadband subscriptions per 100 inhabitants	Ministry of Communication and Information	The number of broadband internet <i>wireless</i> customer	
		National Socio-Economic Survey	Percentage of inhabitants with internet access via mobile phone and others devices (VSEN13.K Blok V.C Rincian 21 kode 5 & kode 6)	As a tool for breaking down into provincial level.



No.	Indicator	Data Source	Data Type	Explanation
ICT Skill Sub Index				
9.	Adult literacy rate	National Socio-Economic Survey	Percentage of more than 15 years old inhabitants who are literate	<ul style="list-style-type: none">• Education Statistics Sub Directorate (BPS/Website official statistics)
10.	Secondary gross enrollment ratio	National Socio-Economic Survey	Gross enrollment ratio for Junior High School, Senior High School, and the same level	<ul style="list-style-type: none">• Education Statistics Sub Directorate
11.	Tertiary gross enrollment ratio	National Socio-Economic Survey	Gross enrollment ratio for college (D1 s/d S1)	<ul style="list-style-type: none">• Education Statistics Sub Directorate

Mobile Phone Subscriptions in Indonesia, 2014



Internet User in Indonesia, 2014

