

Rural Telecommunications

(3) Current Aspects

– Digital Divide and Digital Opportunity -

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Reading Assignment

ITU-D, World Information Society Report 2007

- Chapter 2 Digital Divide
- Chapter 3 Digital Opportunity Index (DOI)

<http://www.itu.int/osg/spu/publications/worldinformationsociety/2007/report.html>

When you read it, consider the answers to the following questions:

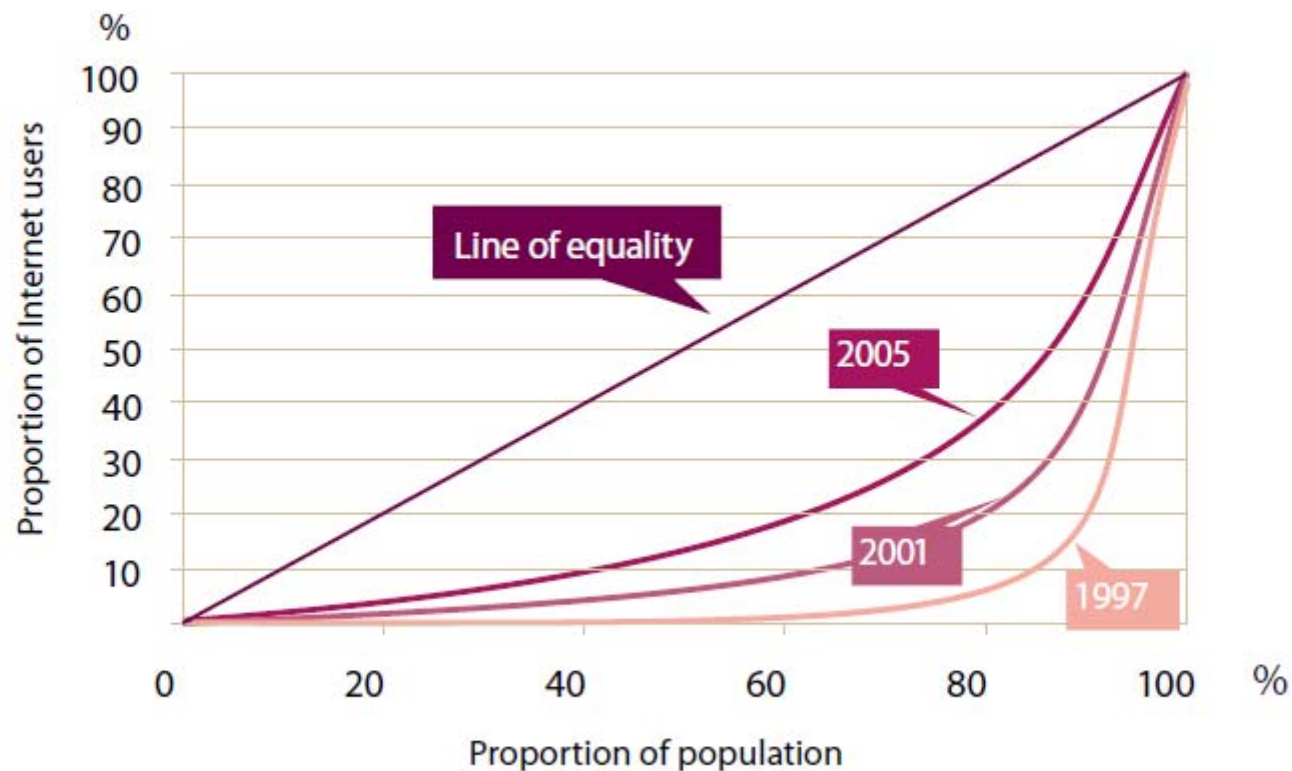
1. What are major issues in digital divide?
2. What is ICT4D?
3. What are three elements of DOI?

Issues in WISR 2007

- The digital divide is shrinking
- Broadband Internet
- Mobile telephony
- Affordability
- Cybersecurity

The digital divide is shrinking

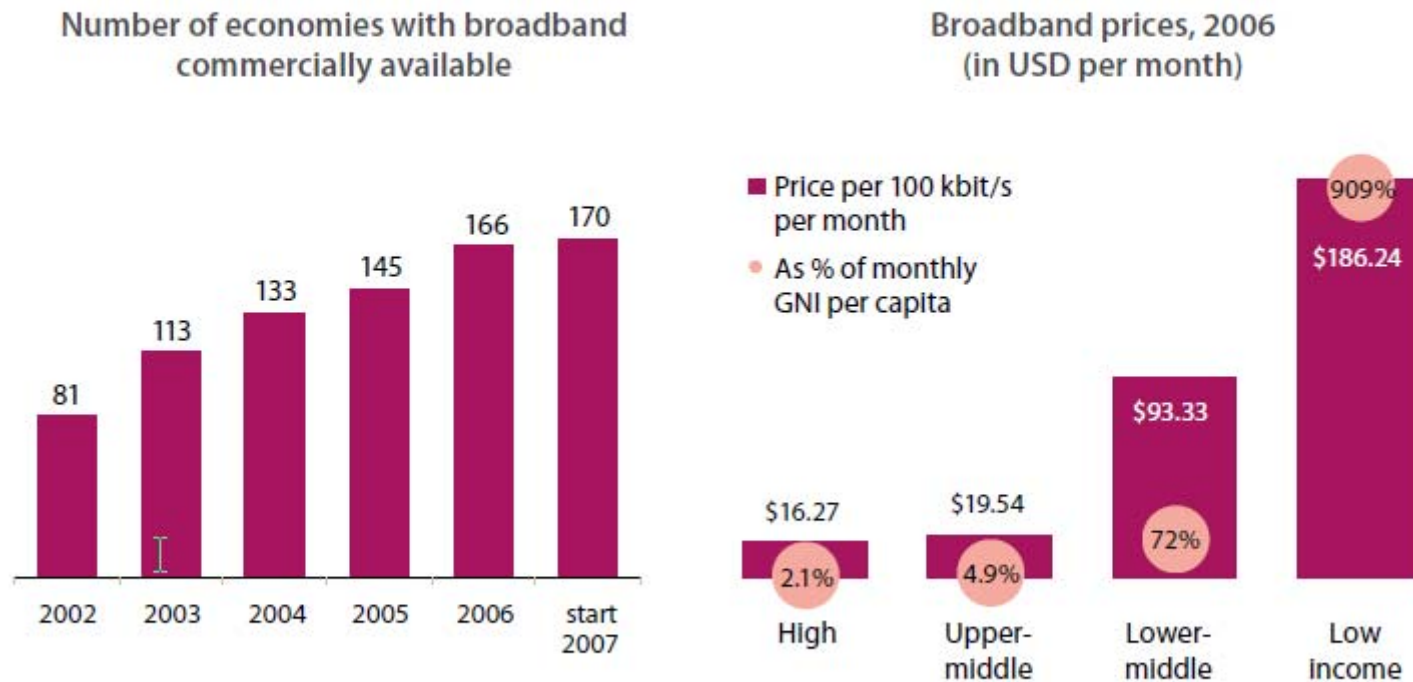
Figure 2: Narrowing of the digital divide in Internet usage, 1997-2005



Source: ITU/UNCTAD/KADO Digital Opportunity Platform.

Broadband Internet

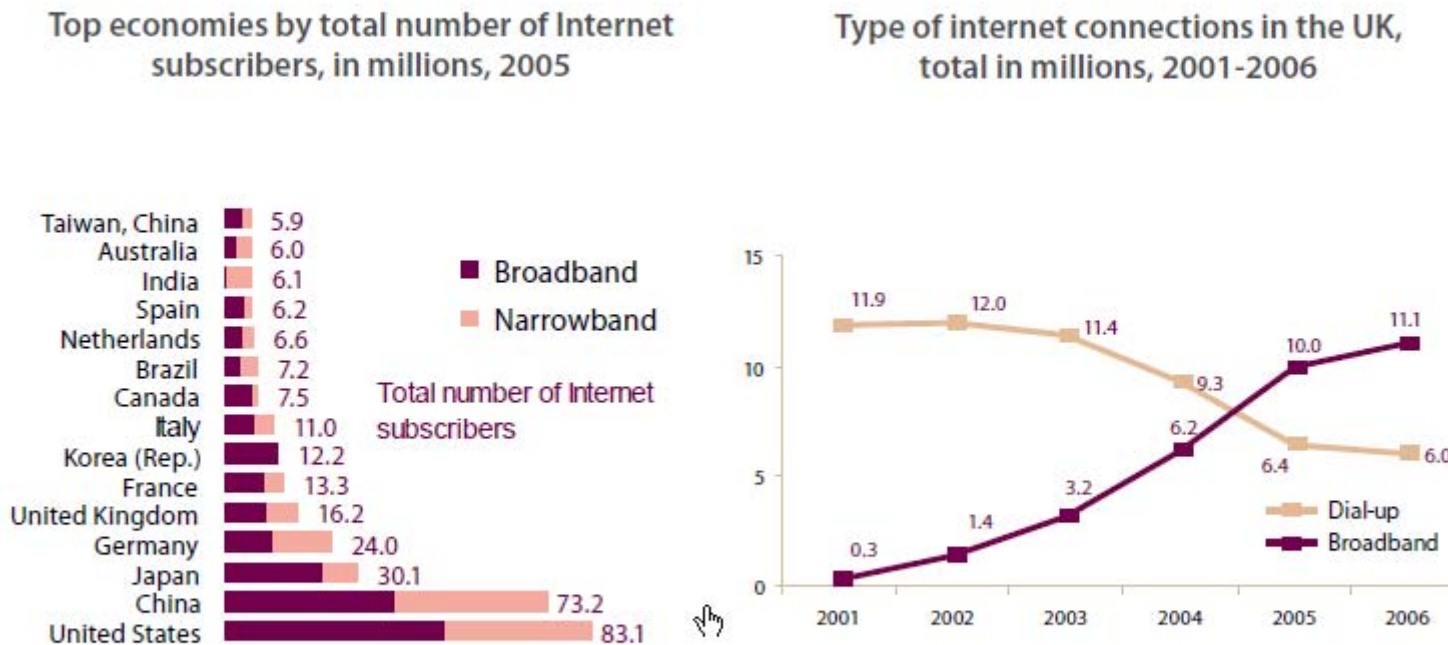
Figure 3: Broadband worldwide



Source: ITU/UNCTAD/KADO Digital Opportunity Platform.

Broadband Internet

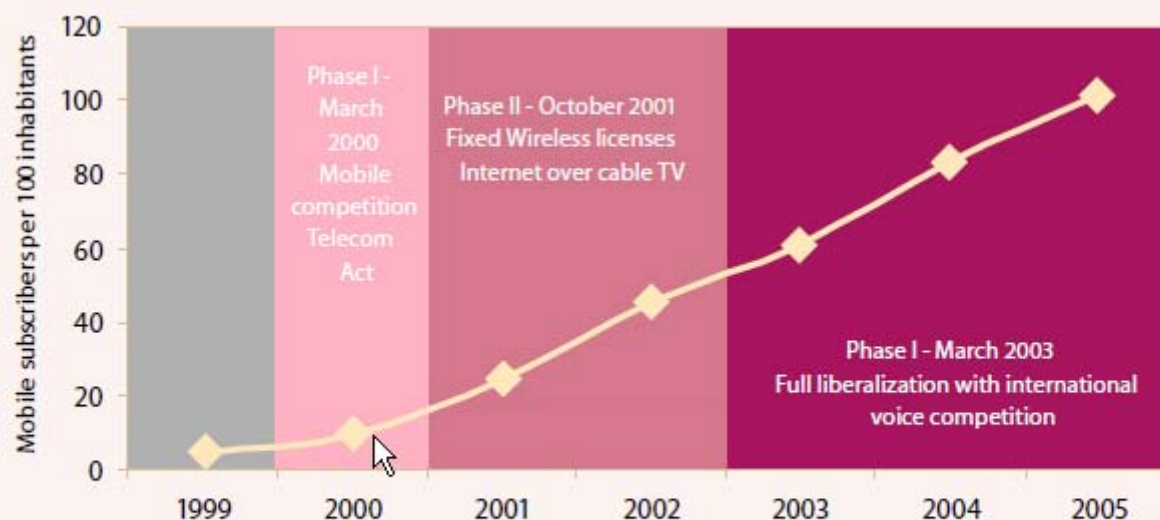
Figure 4: The new substitution



Source: ITU/UNCTAD/KADO Digital Opportunity Platform (left chart); OFCOM (UK), "The Communications Market 2006", at: <http://www.ofcom.org.uk/research/cm/cm06/> (right chart).

Mobile telephony

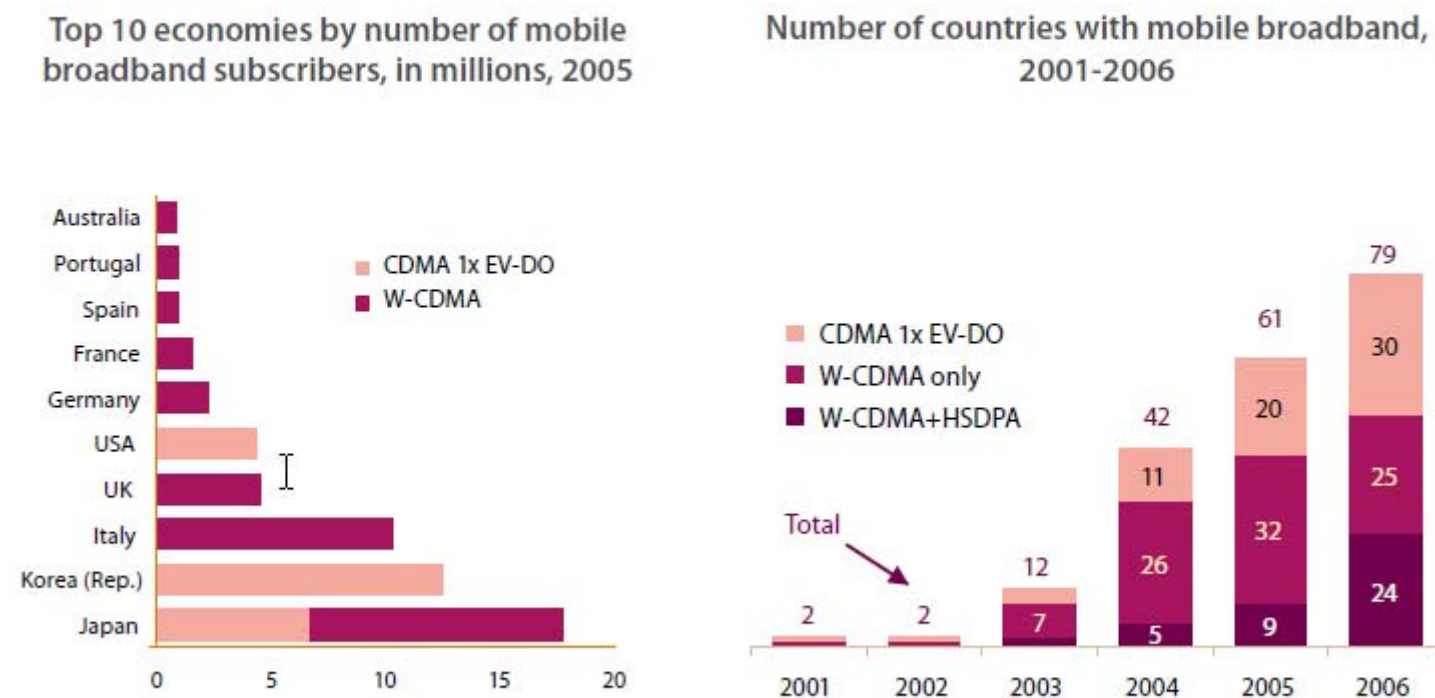
Figure 5: Mobile penetration and market liberalization phases, Jamaica



Source: ITU/UNCTAD/KADO Digital Opportunity Platform, adapted from Office of Utility Regulation (OUR), Planning Institute of Jamaica (PIOJ) and Spectrum Management Authority (SMA).

Mobile telephony

Figure 6: Expansion of mobile Internet and 3G mobile broadband



Source: ITU/UNCTAD/KADO Digital Opportunity Platform.

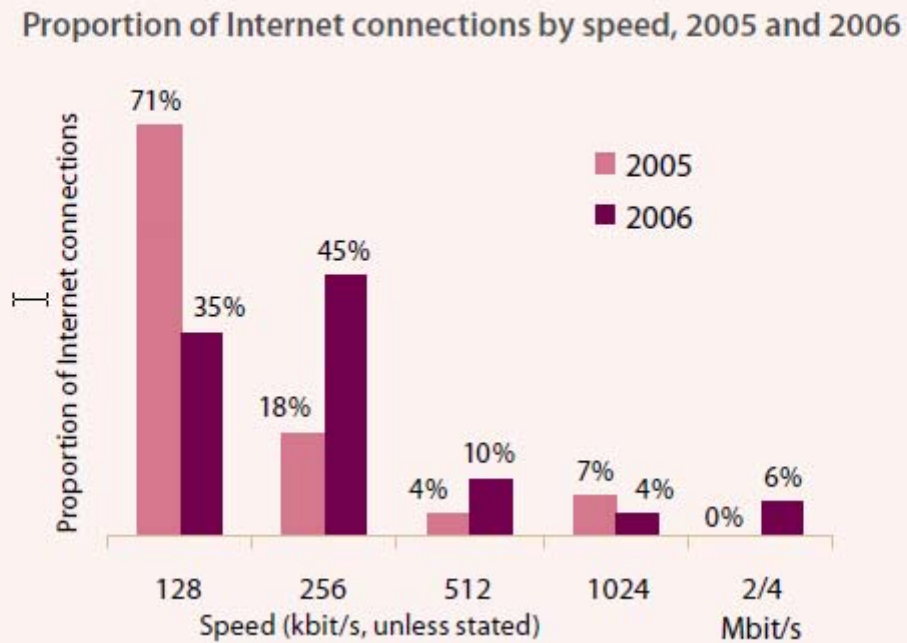
Affordability

Figure 7: ICT prices by income group, 2006

Income group	Monthly basket of Internet use		Monthly basket of mobile use		Broadband Prices (USD per 100 kbit/s)	
	USD	% monthly per capita income	USD	% monthly per capita income	USD per 100 kbit/s	% monthly per capita income
High	\$22	0.9	\$15	0.7	\$16	2.1
Upper-middle	\$22	4.9	\$12	2.6	\$19	4.9
Lower-middle	\$24	19.7	\$11	7.6	\$93	71.8
Low	\$44	172	\$13	54.9	\$186	909
World	\$29	55.2	\$13	18.3	\$72	225.1

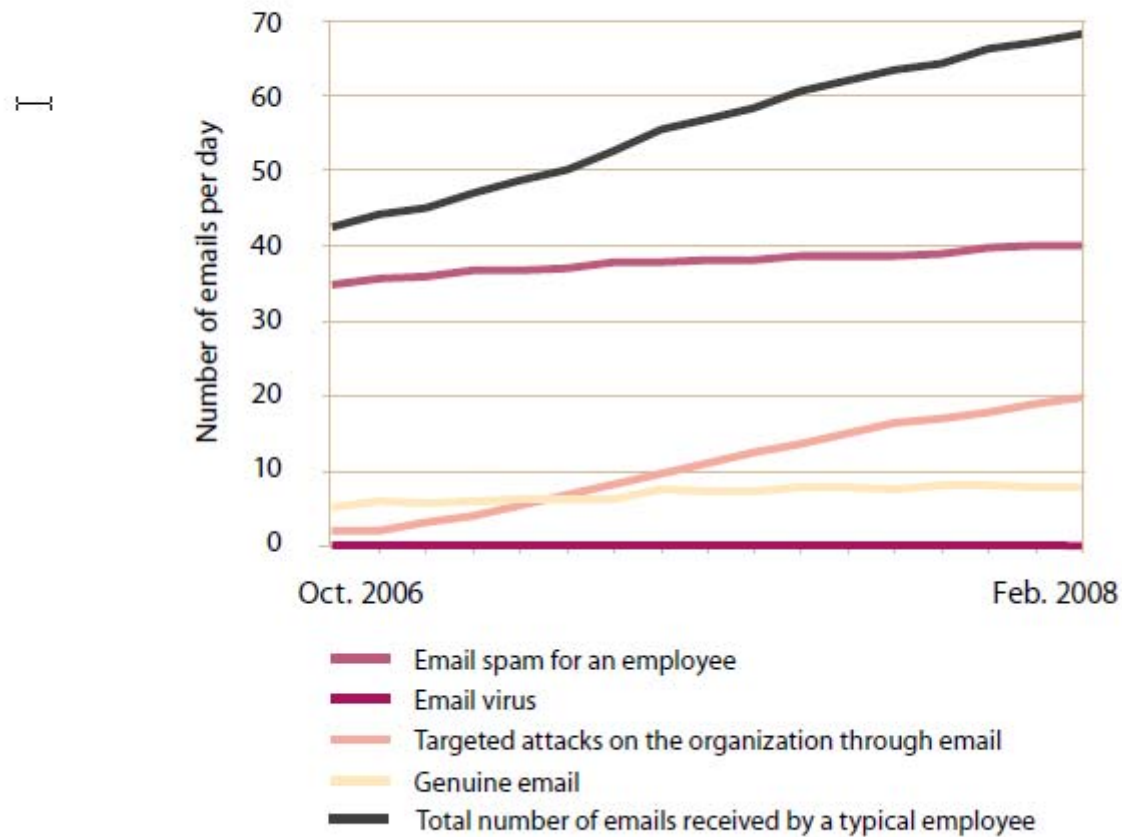
Affordability

Figure 8: Evolution in the speed of Internet access in Morocco



Cybersecurity

Figure 9: Development of threats to cybersecurity within firms



Source: ITU, adapted from MessageLabs.

Digital Opportunity Index

Three Categories

- **Opportunity**
- **Infrastructure**
- **Utilization**

Digital Opportunity Index

- **Opportunity**

- Percentage of population covered by mobile cellular telephony
 - *Seems more related to infrastructure*
- Mobile cellular tariffs as a percentage of per capita income
- Internet access tariffs as a percentage of per capita income

Digital Opportunity Index

- **Infrastructure**

- Proportion of households with a fixed line telephone
- Mobile cellular subscribers per 100 inhabitants
 - *Seems more related to opportunity*
- Proportion of households with Internet access at home
- Mobile Internet subscribers per 100 inhabitants
 - *GPRS is still expensive and not so popular*
- Proportion of households with a computers
 - *cost, literacy, language barrier are issues*

Digital Opportunity Index

Utilization

- Internet users per 100 inhabitants
- Ratio of (Fixed) Broadband Internet subscribers to total Internet subscribers
- Ratio of (Mobile) Broadband Internet subscribers to mobile Internet subscribers

Opinions toward DOI

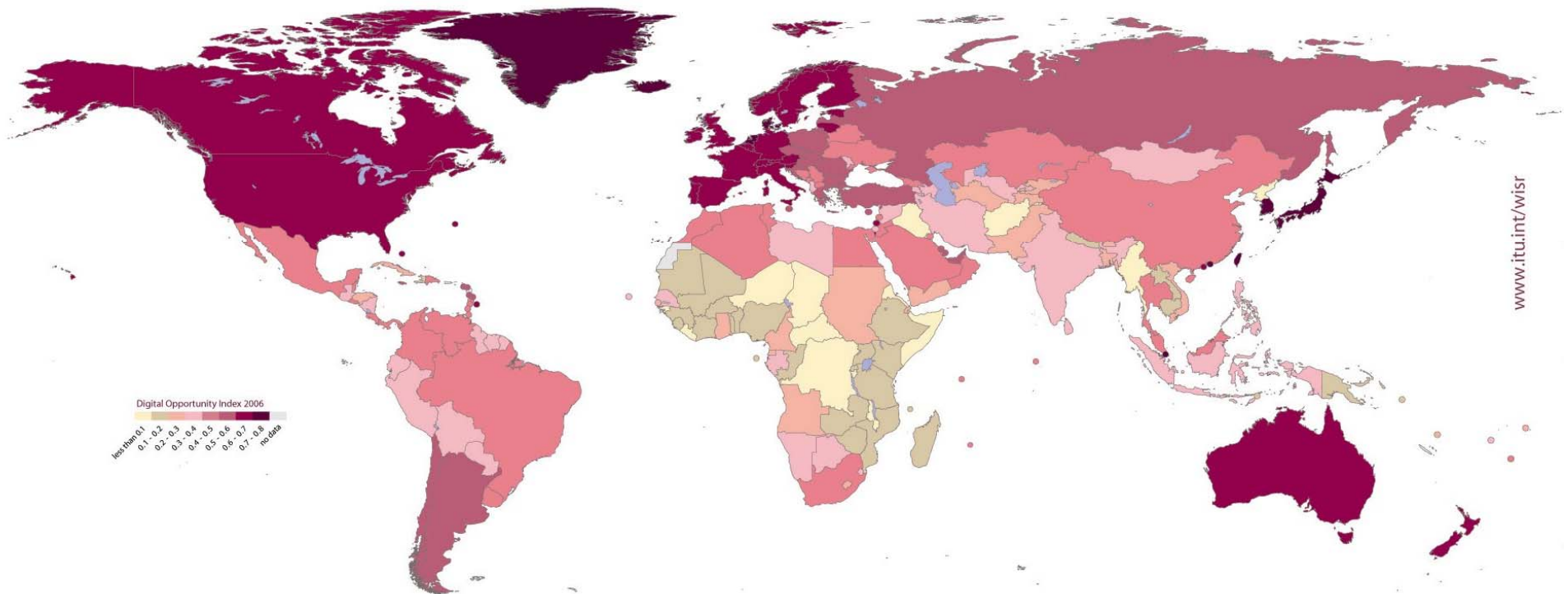
Any addition or deletion?

- Speed of Internet connectivity
 - Very effective for relatively low speed users
 - Question: infinite bandwidth?
 - Saturation of demanded speed
 - There are other bottlenecks
 - New services spending bandwidth will appear
- Traffic per hours / per capita
- Affordability percentage of school with Internet connection
- Takada's opinion: not only average but disparity should be considered

Digital opportunity 2005/2006



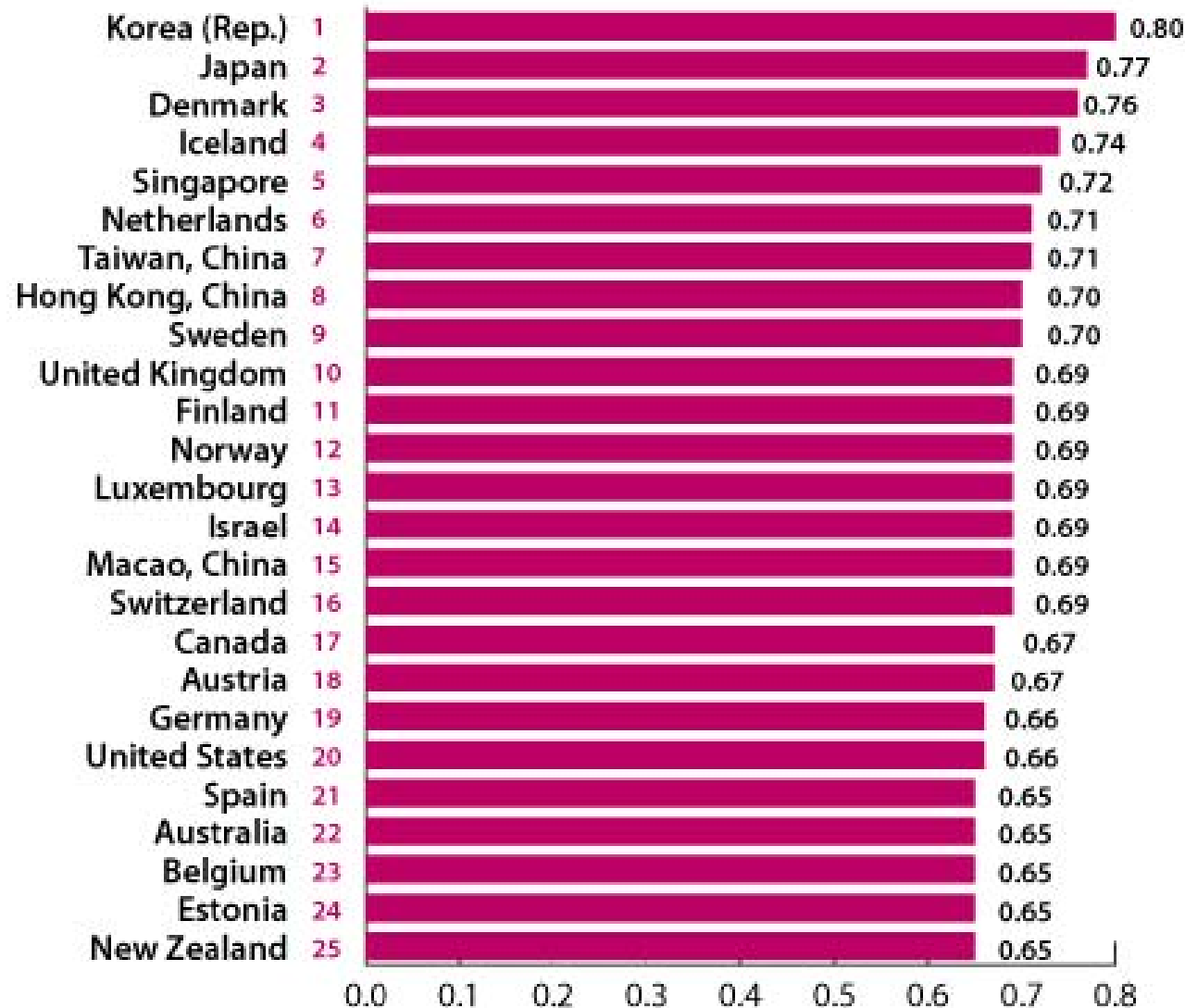
International
Telecommunication
Union



www.itu.int/wisr

<http://www.itu.int/ITU-D/ict/doi/>

Digital Opportunity, Top 25 economies, 2007



Web Page

<http://portal.uml.gsic.titech.ac.jp/moodle/course/view.php?id=3>

- You can create your own account by yourself.