The Digital Divides
or the third industrial revolution: concepts and figures

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Questions to (try to) answer...

- Food or Technology (ICTs)?
- Digital Divide: a matter of infrastructures?
- Digital Literacy: plug & play?
- Should the rich be scared of the Digital Divide(s)?
First Part: General concepts
NEW Information and Communication Technologies

- Old ones:
  - radio
  - phone
  - TV
  - printed press

- New ones:
  - Internet (e-mail + WWW)
  - mobile phone
  - satellite
INFORMATION and COMMUNICATION Technologies

- Information:
  - databases
  - knowledge management

- Communication:
  - broadcasting
  - p2p
  - networking

- Technologies
  - multiplatform
  - multichannel
Information Society? (1/2)

(back to the ) Production function

- Labour (and land)
- Labour and Capital
- Labour, Capital and Knowledge/Technology/…
Information Society? (2/2)

- Information as input, tool and output
- Use information to get
  - more information
  - better (quality) information

![Diagram showing the process of information as raw data going through digitalization, transformation, and enrichment to become rich data, information, and knowledge.](image)
THIRD industrial revolution?

- **Industrial revolution:**
  - iron
  - steam engine

- **Second industrial revolution:**
  - steel
  - internal-combustion engine

- **Digital revolution**
  - information
  - computers
Second Part: Development
Development: General concepts

- Humanitarian action/aid
- Development and Capacity building
  - Cooperation for Development
ICT and Development

- Efficiency (efficienza)
- Efficacy (eficacia)

PRODUCTIVITY
ICT’s contribution to development

Figure 3. Contribution of ICT to Labor Productivity Growth (% of GDP)^2

Source: Based on findings from Van Ark et al. (2003) and Lee and Khatri (2003).
ICT’s contribution to development

Figure 4.1: ICT’s contribution to economic growth

Source: ITU adapted from Jorgenson and Vu. 2005.
Note: The Group of 7 (G7) refers to the following countries: Canada, France, Germany, Italy, Japan, UK, and US.
ICT’s contribution to development

Source: Charles Kenny and Christine Zhen-Wei Qiang
World Bank (2003) ICT & Development

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Source: authors’ calculation from World Bank 2000b.

Figure 2. Link between Telecommunications and Growth

- $y = 2.0378x^{0.1965}$
- $R^2 = 0.2126$
Why ICT is key for achieving the MDGs? (Shoji Nishimoto & Radhika Lal)

- ICT is necessary for investment, livelihood support and entrepreneurship
- ICT facilitates cost-effective public and private services

and

- ICT increase NGOs’ efficacy, efficiency… productivity
Third Part: Digital Divides
Digital Divide: concepts

- e-Readiness
- e-Awareness
Digital Divide or The Four types of the Digital Divide

- Infrastructure
- Capacitation (Digital Literacy)
- Content and Services
- Legal framework
Digital Literacy

- Technological literacy
- Informational literacy
- Functional literacy
- e-Awareness
State of the Digital Divide

Figure: 1.1: Overall, the digital divide is shrinking...
Mobile telephone subscribers per 100 inhabitants, 1994-2004 (left) and fixed telephone lines per 100 inhabitants, 1994-2004 (right)

Source: ITU World Telecommunication Indicators Database.
Note: In these charts, the digital divide is calculated by dividing the penetration rates in the developed world by the penetration rate in the developing world. Penetration rates are rounded, whereas the digital divide is calculated based on actual numbers. For this reason, the digital divide results do not always correspond to the figures indicated in the graph.
State of the Digital Divide

Figure 1.2: ...but major disparities remain
Mobile cellular penetration, by region, 1994-2004 (top left) and distribution of the 160 million 3G subscribers at the end of 2004, by region (top right); Internet penetration by region, 2004 (bottom left) and distribution of broadband subscribers by region, 2004 (bottom right).

Source: ITU. ICT Development Report 2006
Digital Divide and Development

- leapfrogging
State of the Digital Divide

Source: Ismael Peña. ICTlogy.net
Fourth Part: Digital Inclusion (Digital Divides II)
Digital Divide and Digital Inclusion (1/2)

- **Infrastructure:**
  - access (and quality)
  - affordability

- **Capacitation:** digital immigrants and literacy

- **Content and Services:**
  - local content
  - relevant services

- **Legal framework:**
  - ICT sector regulation (market)
  - Censorship
Digital Divide and Digital Inclusion (2/2)

Technological Infrastructures
- Hardware
- Software
- Connectivity
- Infrastructure installation
- Infrastructure maintenance
- Infrastructure creation
- Technological literacy
- Informational literacy

Digital Literacy
- Infrastructures Policies
- R+D+I Policies
- Educative Policy
- Intellectual property and patents
- ICT Sector fostering

Content, Community & Services
- Locally relevant content
- Content creation, transmission & commercialization
- e-Comunication among individuals and communities
- Presence in the Net & virtual communities
- e-Services
- e-Public Sector

Legal Framework
- Intellectual property and patents
- Data protection
- Identity in the Net
- Information Society Law
- Content Policies
- e-Communication Policies
- Distance learning Policies
- Internet Governance
- Foreign trade Policies
- Participative Democracy
- ICT4D
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