



22 Information Technologies and Development

CHAPTER SUMMARY

This chapter examined how new information and communication technologies (ICTs), such as computers, cell phones, and the Internet, may advance economic development in poor countries. Historically, technology has been both a burden and a blessing, and has the potential to significantly affect society. There are optimistic and pessimistic views on the impact of technology on developing societies. The optimistic view suggests these societies may use ICTs to expand individual opportunities and leapfrog stages of development. The pessimistic view suggests that new technologies may exacerbate the digital divide of unequal access to ICTs between the “haves” and the “have-nots.” A more pragmatic view suggests that ICTs can be beneficial, if used properly. Indeed, bridging the digital divide is essential to expanding opportunities for poor people. The digital divide exists due to unequal diffusion and distribution of technologies; low affordability; inappropriate skills; and levels of motivation to adapt new technologies. There are different approaches to providing access to ICTs, such as universal access, which may differ from the universal service approach common in developed countries but is often an effective way of expanding technology use. Other important issues for developing countries include expanding open access to intellectual property and ensuring that content is produced locally and reflects local, non-Western cultures.

VIDEO RESOURCES

Secrets of Economic Growth, Ricardo Hausmann
<https://www.youtube.com/watch?v=2FeugaLv5Bo>
Time 19:59

Economic complexity is like a game of Scrabble, says Ricardo Hausmann. The more letters you have, the more words you can make; the more capabilities a country has, the more diverse products it can generate. In this video for the World Economic Forum, Hausmann, from the Harvard Kennedy School of Government, uses metaphors and metrics to explain the gap between rich and poor countries.

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Sugata Mitra: Can kids teach themselves? (the Hole in the Wall Project). TED Talks.

https://www.ted.com/talks/sugata_mitra_shows_how_kids_teach_themselves

Time 20:55

Sugata Mitra discusses how education is affected by new technologies. Part of the presentation covers his innovative “hole-in-the-wall” project in which children in a slum neighbourhood, once given access to technology, proved they could teach themselves how to use it.

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Aamir Khan: Using Cellphones to improve healthcare delivery. TED Talks x Lahore.

<https://www.youtube.com/watch?v=vDoJ2S-Z0pY>

Time 16:58

Executive director of IRD—Interactive Research and Development—Aamir Khan dreams of using cellphones to improve the provision of healthcare in Pakistan and uses his experience in the field to share his work with technology.

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WikiSecrets. Frontline – PBS Video.

<http://www.pbs.org/wgbh/pages/frontline/wikileaks/>

Time 53:40

A Frontline report on the origins and development of Wikileaks. The report discusses the role of former soldier Bradley Manning in the largest intelligence breach in US history.

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Secrets behind Korea’s Economic Success

<https://www.youtube.com/watch?v=bJ0hMr5TSkI>

Time 24:10

You may find the revised version of Secrets behind Korea’s Economic Success (2015) in the following link. The revised one includes updated and recent economic situations of Korea after 2010.

REVIEW QUESTIONS

1. Contrast technological determinism with social determinism.
2. Compare universal access and universal service as approaches to bridging the digital divide.
3. What is the “digital divide”?

4. Compare the occupational and cultural arguments that the modern world is an “information society.”
5. Explain the pessimistic and optimistic views on the role of ICTs in the development process.
6. Discuss the dependency theory of information technology.
7. Explain briefly the three-world metaphor from Versola’s perspective.

ANSWER KEY: REVIEW QUESTIONS

1. Technological determinism contends that technology drives societal evolution. Specifically, this view sees technology leading to more technology in a process that constantly reforms society. A historical example is the contribution of the printing press to the Protestant Reformation by increasing access to the Bible, which facilitated individual interpretations of the book. Social determinism sees social interaction as driving the development and use of tools, which can then be reinterpreted and used for different reasons. This view sees technology as neither inherently good nor bad, but dependent on how it is used. (pp. 421–422)
2. Universal service involves making a defined minimum service of telecommunication available at a specified quality and an affordable price. This concept is based on the availability of ICTs in homes (e.g., percentage of homes with a telephone). Universal access involves providing every person a reasonable means of access to a publicly available telecommunications service, provided through community telephone centres, pay telephones, etc. This concept is often measured in terms of the proportion of people in the population with access (e.g., telephone lines per 100 inhabitants, etc.). Both are based on the affordability, accessibility, and quality of basic telecommunications services, but while universal service focuses on the availability of services in all homes, universal access focuses on basic services available in all communities. (pp. 432–433)
3. The digital divide is the gap between groups in their access to and use of ICTs. It can be observed in comparisons of North–South, male–female, urban–rural, rich–poor, young–old, and educated–uneducated. The divide is typically measured as the number of phone lines per inhabitant and the number of cell phones or Internet users in a population. Regardless of the existence of a divide, increasing access to ICTs can still positively impact those who have been deprived of their use. (p. 429)
4. The occupational argument is based on the dynamic of occupational change and points to the pre-dominance of jobs based on informational work (teachers, lawyers, etc.). This new “white-collar society” has moved away from industrial labour and toward the service industries. The cultural argument for the existence of an information society is premised on the large increase in information in social circulation due to television, the Internet, etc. This increased access to information has created a situation wherein the behaviours and values of people in major world cities may have more in common with one another than they do with people in their own countries who are less well connected to the information network. This trend has the effect of promoting a similar style in consumer tastes and other lifestyle aspects. (pp. 423–424)
5. The optimistic view holds that ICTs are a necessary component in sustainable development. ICTs have wide use in range of public policy arenas, and can aid in alleviating poverty by providing more opportunities for the poor. In this view, ICTs are treated as tools to provide people with access to information that can be used to improve their economic circumstances. ICTs would therefore allow countries to “leapfrog” stages of development. The pessimistic view contends that ICTs will increase existing inequalities and social divisions. Evidence can be found in the fact that politically and economically powerful countries benefit the most from increased access to ICTs. Undoubtedly, some positive impact occurs for some, but this comes at the cost of widening the gap between those groups and the poor. (pp. 427–428)
6. The dependency paradigm views development in one country as inevitably implying negative effects of call-centre work such as lack of sleep, lack of exercise, increase in drinking and smoking, and less time for the family. Odd work schedules, coupled with the mentally and physically stressful nature of the work, are leading to high turnover rates in these types of jobs. Hence, the core–periphery dichotomy that was evident during colonial times and the industrial era continues in the information age, with the idea of divides continuing to persist. As Castells explains, a

network society has the “simultaneous capacity to include and exclude people, territories and activities,” and this is characteristic of “the new global economy as constituted in the information age”.

Just as nations have to clarify their position with respect to these development perspectives, they also have to clarify the role of ICTs in their development policies, since ICT use is also value-laden, cultural, and contextual. For instance, as a tool for governance, ICTs can be used to increase control, just as they can be used to empower. They can be used to develop national identity, just as they can be used to better understand other cultures. In the end, ICT is a tool, and it is up to the owners or users of the technology to decide how it will be used for development—whether in commerce, education, health, or governance. (pp. 425–426).

7. No country is purely based on services or information. Verzola (1998) argues that one of three sectors will dominate: agricultural, industrial, or informational (that is, the service sector). This creates three disparate worlds and could lead to a widening gap between rich and poor societies. The agricultural sector produces living matter for consumption; the industrial sector produces non-living finished goods from natural resources; and the information sector produces non-material goods based on high information content. In trade terms, this equates producing 160 pounds of coffee (if coffee costs \$1 per pound) with producing one television set at \$160 or selling one copy of the latest Microsoft Office Professional for the same price. The unique characteristic of information—never wearing out, never being used up, and easily copied with minimal input of labour and materials—gives a significant advantage to societies with economies based more on information over those based more on agriculture or industry (p. 427)