

Impact of information technology development on developing countries

By Maggie Lau

In its 1998 report, the World Bank points out that poor countries and poor communities will fall behind more rapidly than ever before with the rapid development of information technologies (IT). As we are enthusiastic about the information superhighway, there are villages and slums without telephones, electricity, or safe water, and there are primary schools without pencils, paper, or books. For poor people, the promise of the new information age - knowledge for all - remains as remote as a distant star.

Difficulties in competing in the world market

The World Bank also points out that the share of high-technology goods in international trade has doubled over the past two decades. However, the trading of high-technology goods and services is highly concentrated in the industrialised countries. Knowledge-based products now make up more than half of the GDP (gross domestic product) of the world's major Organisation for Economic Cooperation and Development (OECD) countries.

In today's IT- and knowledge-based economic system, the globalisation of trade, finance and information flows is intensifying competition. Being able to gain access to the information superhighway is the key to

success in the world market. Lack of infrastructural and governmental resources and heavy debt burdens have made it almost impossible for developing countries to reduce poverty through IT.

Difficulties in participation

As information technology spreads into every aspect of life, those who have access to IT and knowledge have more sources of information and ways to gain support. In contrast, people in developing countries may not even have access to information that is crucial to their basic survival.

As IT becomes a dominant communication channel, poor people in developing countries will be further deprived of opportunities to express opinions and participate in social development. Social exclusion has become a very real possibility for the already marginalised people in developing countries.

Marginalisation of indigenous knowledge

IT development is also further marginalising the indigenous knowledge of developing countries. Seemingly, the Internet is a platform for all types of information. However, as the Internet is dominated by commercial information on

indigenous issues is minimal.

Panos, a British non-profit information agency, has pointed out that indigenous knowledge is not usually part of the Internet. Panos warns that, 'a huge amount of knowledge won't be there (the IT-based knowledge system), particularly the knowledge that is outside the technocratic and scientific community - indigenous knowledge, local

Because of gaps in socio-economic development, education and income levels, and because of language and geographical barriers, not all countries and individuals have equal access to the new advances in information technology. For example, what does information technology mean to indigenous people in remote and poverty-stricken areas?

language knowledge, private knowledge, not to mention knowledge that is too valuable or sensitive for the processor to share.'

IT development and globalisation are closely related. Recently, we have witnessed some cases of mergers between IT and media companies. The trend towards a high concentration of IT and media ownership and control is worrisome as it introduces the question of whether cultural diversity will eventually diminish.

Will IT and knowledge become even more uniform? Will the indigenous knowledge of developing countries be further ignored or forgotten?

Patent barriers: Whose development? Who benefits?

Developed countries not only steer the development of information technology, but also own a large part of the technology through patent and intellectual property legislation. Data show that over 60% of all internationally recognised patents are held by multinational companies in Europe and the US (Oxfam International, 1999) and that 80% of the patents in developing countries are owned by citizens of developed countries (UNDP, 1999).

The ratio of research and development expenditures in high-income countries to that of low-income countries is 218:1 (World Bank, 1998). Developing countries are unable to participate in this capital- and knowledge-intensive industry. There is a knowledge gap between developed and developing countries.

Currently, rules and regulations regarding

intellectual property in trade, stipulated by the World Trade Organisation (WTO), serve as barriers to developing countries in applying IT. The cost for developing countries to gain access to IT is higher than for developed countries.

This is due to the fact that in order for poor countries to set aside resources for IT development, given the general lack of government resources, poor countries may need to cut spending on other items such as public services. The harsh and adverse impact of reduced government services on poor people is direct and immediate whereas the benefits of IT investment may take some time to be realised.

International patent rules and regulations can limit indigenous people's rights to use and own indigenous knowledge. Rich companies in Europe, the US and Japan have patented information on traditional resources in developing countries. By doing this, the knowledge, technology and resources that could have once been freely used by the public have now become the property of a small group.

When developed countries patent traditional medicine and seeds, people in developing countries are prevented from using knowledge that could be crucial to them. These patents not only destroy their rights to their own indigenous knowledge but also threaten their livelihood and even basic security.

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