

Chapter 1

Global Issues of Information Technologies

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ABSTRACT

Information technologies have been deployed as a key competitive advantage by multinational and transnational businesses throughout the world. They have performed wonders for individuals, societies, and nations worldwide. Nevertheless, they have also generated numerous global issues. This chapter surveyed and discussed 10 of these issues: interruption of traditional business models, threats to privacy, cyberbullying, unethical behavior in the workplace in a digital world, undesirable impact of texting, new challenges of polling, online piracy, threats to national security, threats to human jobs, and obstacles to information technology innovations. Upon reading this chapter, the reader should be able to understand that every new technology has tradeoffs, and recognized issues lead to improvements and more innovations.

INTRODUCTION

Information technology innovations and their widespread applications since 1980s have forever changed human lives and societies. Internet aided by more recent technological advancements such as mobile telecommunication, cloud computing, and big data mining have connected people throughout the world digitally and instantly. Information technology diffusions have brought enormous changes to public domains such as business, education, medicine, and government. More importantly, combined with new discoveries in various fields such as material science, healthcare,

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and biology, information technology is bringing forth new realities at a pace never before experienced in human history.

As information technologies continue their diffusions throughout the world, people everywhere begin to enjoy and recognize the great convenience and benefits they bring, of which the following is but a small sample:

Business

Information technologies in the form of computer hardware and software were utilized in business organizations as early as in 1960s. Since then, nearly all business organizations in developed countries and many business organizations in developing countries have used some information technologies in their daily operations. They have been used not only for business and financial record keeping, but also for product design, process automation, market analysis, payment handling, supply chain management, organization management, and general decision support (Cron & Sobol, 1983; Stephens, 1999; Zuckerman, 2004; Attaran, 2004; Lu & Ramamurthy, 2011; Luftman et al, 2017).

Education

TV networks made government-managed TV universities possible in countries such as China in the 1980s. Non-interactive courses were broadcasted through TV networks to designated locations. With the design of EdNet (Education Networks), Internet-based distant education first became available in countries such as the United States in the 1990s. Interactive courses taught on one campus could be attended by students at various satellite campuses. Today, online education programs have benefited students of every level throughout the world. The seemingly unlimited information resources are often a few clicks away. The great wealth of knowledge is presented in many different ways and made available not only to students, but also to everyone else, making learning possible and relatively easy for all in the world (Greenhow et al, 2009).

Healthcare

Like in other fields, information technologies have brought innumerable advances in healthcare, which have enabled medical personnel to provide patients with more accurate diagnoses and more effective treatments. Some of the best known include Computerized Axial Tomography (CAT), special X-ray tests that produce cross-sectional images of the body using X-rays and a computer (Davis 2016), Magnetic Resonance Imaging (MRI), a noninvasive medical test that uses a powerful magnetic

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