Chapter 62
Indicators of Information and Communication Technology

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ABSTRACT

Information and communication technology (ICT) has become a major driver of changes in economic, social, public, and private life, leading to emergence of the information society and digital economy. Identification of key trends and analysis of transformation processes can only be made on the basis of reliable statistical data. Development of relevant international statistics plays a leading role here; hence, via establishing and updating relevant standards, it allows to measure development of the information society in a global scale, and benchmark positions of individual countries in the worldwide economic environment. ICT indicators are based on general (definitions and classifications, similar data collection methodologies) and specialized statistical standards, whereas harmonized methodology provides highly compatible indicators for different countries. The objective of this chapter is to present a systemic overview of internationally accepted definitions of main ICT indicators based on accumulated methodological standards and practical experience.

INTRODUCTION

Over the past twenty years, technologies using microelectronics for collection, storage, processing, retrieval, transmission, and presentation of data, texts, images, and sound, collectively known as ICT have completely changed all people's activities. The rapid proliferation of ICT and their impact on all spheres of modern life (see Ahmad et al. [2004]) – production processes, the interaction of individuals and organisations with public authorities, the development of social infrastructure, and privacy issues –

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has stimulated the interest to statistical analysis of the ICT sector's prospects at the national and regional levels. Influence of ICT led to emergence of a new socioeconomic configuration commonly referred to as "Information Society".

BACKGROUND

An Information Society is usually understood as a society that makes extensive use of information networks and technologies, produces large quantities of ICT goods and services, and has a diversified content industry. Both theoretical and practical issues related to measuring different aspect of Information Society has been increasingly addressed by many authors during the last 20 years (see for example Blank, Groselj [2014]; Dolničar et al. [2014]; Billon et al. [2016]). The key three thematic "pillars" related to the Information Society are as follows (Figure 1):

Figure 1. The Conceptual Model of the Information Society
Source: [Gokhberg and Buegh-Nielsen, 2007].