Chapter 1

Information as Economic Good: Its Origins, Characteristics, Pricing, and Associated Legal and Ethical Issues

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ABSTRACT

Information plays an important role in most economies, and in some economies constitutes the dominant sector where information is created, traded, sold, and brokered as a commodity or economic good. It is therefore important for all stakeholders to understand the unique nature of information as an economic good and the implications thereof on the creation, trading, selling, and brokering thereof, as well as the potential legal and ethical issues. The purpose of this chapter is to provide the reader with an overview of the origins of the information economy, information as an economic good, and the characteristics that distinguish it from other economic goods; the impact of these characteristics on the pricing and packaging of information goods as well as some of the legal and ethical issues that pertain to information systems are highlighted. The chapter concludes with possible future trends and research directions.

INTRODUCTION

Although the concepts of information society and information economy are difficult to define precisely, there are a number of different approaches to both of these concepts. According to Braman (1998), who provides an overview of the historic development of these concepts, a Japanese anthropologist Umesao first referred to an ‘information society’ in the early 1960s and by the late 1990s the phrase had become widely used to denote the harmonisation of information systems across national borders where information and communication technologies (ICT) are utilised to achieve the interaction and exchange of information between the local knowledge system.
and the global knowledge system to create usable, relevant contextualised content and knowledge (Holmner, 2008). In such a society information is valued as a key to economic wealth and prosperity with an increase in information-related activities, as well as an enhancement of human intellectual capability.

An economy consists of different sectors, each present to a greater or lesser extent. Information plays such an important role in some economies that a separate and distinct sector of the economy, the information sector, has been recognised. When the information sector becomes dominant, one can speak of an information economy. According to Branscomb (1994) an information economy is “based upon the premise that information has economic value and requires an information marketplace in which such value can be exchanged.” In an information economy the processes of production, transmission, and use of information replace or at least dominate over industrial processes, as industrial processes did over the agricultural processes in an industrial economy. An information economy can be conceptualised in three different ways, each focusing on different aspects of the economy: products, the domain or scope of information commodification, and/or function where information flows are the key coordinating mechanism (Braman, 1998). Whilst these three conceptualisations are not mutually exclusive the first conceptualisation, in which the focus falls on what the economy produces and the manner in which it does so, is most widely accepted by policy-makers (Braman, 1998).

Within the product-focused conceptualisation of the information economy information and information technology can either be final, primary goods or intermediate, secondary goods where it is used in the production of other goods. Various methods have been developed to attempt to define and measure the extent of an information economy. Machlup (1962) and Porat (1977) are considered to be the pioneers in this regard but there are a number of criticisms to these approaches, most important being the basis of calculation and comparison to the Gross Domestic Product (GDP) (Boon, Britz & Harmse, 1994; Poirier, 1990; Miles 1989). Although a number of variations have subsequently been developed with a focus either on people, products or their use, or the information cycle, these methods are always limited by the availability of data, particularly in an appropriate format (Rubin & Sapp, 1981; Miles 1989; Boon et al., 1994). Irrespective of these problems, it is important to measure the size of the information economy (or sector), primarily for policy and planning purposes by national governments.

The purpose of this chapter is to discuss the unique nature of information as an economic good, the implications thereof on the creation, trading, selling and brokering of information goods as well as the associated legal and ethical issues. To this end the chapter is structured as follows: first, information as an economic good is discussed followed by the pricing and packaging of information goods given the unique characteristics of information goods. Third, some of the resulting legal and ethical issues that pertain to information systems are highlighted. The chapter concludes with future research directions.

**INFORMATION AS AN ECONOMIC GOOD**

There is general consensus that information has changed from a common good to a commodity with market value and that it is recognised as the most important input to production (Webster, 2002). Information goods can take a wide variety of forms: market research, packaged software, algorithms such as those used by Google’s search engine or Amazon’s recommender system, a user interface and interaction design such as Apple’s iPhone, a file containing the instructions to print a three-dimensional (3D) object, patterns for designer clothing or a sweater, stock photos, books,
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