Chapter 7
Making Sense of Knowledge Productivity

Christiaan D. Stam
INHolland University of Applied Sciences, The Netherlands

ABSTRACT
In the knowledge economy knowledge productivity is the main source of competitive advantage and thus the biggest management challenge. Based on a review of the concept from two distinct perspectives, knowledge productivity is defined as the process of knowledge-creation that leads to incremental and radical innovation. The two main elements in this definition are ‘the process of knowledge creation’ and ‘incremental and radical innovation’. The main aim of this chapter is to contribute to a better understanding of the concept of knowledge productivity in order to support management in designing policies for knowledge productivity enhancement. After elaborating on the concept of knowledge productivity, the two main elements are combined in a conceptual framework: the knowledge productivity flywheel. This framework appeared to be an effective model for supporting initiatives that aim for enhancing knowledge productivity.

INTRODUCTION
Our economy has changed from an industrial into a knowledge economy (Drucker, 1993; Toffler, 1981), in which the competitive advantage of organizations is based on the ability to exploit knowledge resources. The increased importance of knowledge as an economic resource has been reviewed from many perspectives, resulting in slightly different denotations, each usually emphasizing a different but related aspect of the same phenomenon. Some examples of this are the “knowledge society” (Toffler, 1981), “knowhow society” (Sveiby & Lloyd, 1988), “information society” (Giddens, 1994), “information economy” (Shapiro & Varian, 2003), “learning society”, “learning economy” (Harrison & Kessels, 2004), “network society” (Castells, 1996), “intangible economy” (Andriessen, 2004) and the “creative economy” (Florida, 2002). Within the different
denotations of the new reality, we see that authors are either referring to society as a whole, or to the economy. However, as Jacobs (1999) argues, the term knowledge society is a tautology—a needless repetition—as society and mankind have always been dependent on the interpretation of knowledge. Yet, the knowledge economy, in which knowledge has become the main factor of competitive advantage, is a new phenomenon. The transition to the knowledge economy is about the increase in scale of knowledge as a production factor. Knowledge is not a new production factor, but the relative importance of knowledge, related to land, labour and capital, has substantially increased during the past few decades (Castells, 1996; Weggeman, 2000). In line with this reasoning, Stewart reminds us that, “not for nothing are we *homo sapiens*, thinking man” (Stewart, 1997, p.5, italics in original).

Inspired by Stewart (2002) and Drucker (1999), the essence of the knowledge economy can be summarized in three characteristics. First, in the knowledge economy, knowledge is what we buy, sell, and do. Second, intellectual capital (IC) is the new wealth. Third, knowledge productivity (KP) is the biggest challenge (Stam, 2007). Whereas the first and second characteristic of the knowledge economy are extensively elaborated on, the third remains relatively unexplored. If we accept as true that knowledge productivity is the main source of competitive advantage and the biggest management challenge in the knowledge economy (Drucker, 1999), this might threaten organizational effectiveness. Therefore, the aim of this chapter is to contribute to a better understanding of the concept of knowledge productivity in order to increase management effectiveness to develop policies that aim at enhancing knowledge productivity. This chapter is based on the findings in a case-based research related to knowledge productivity (Stam, 2007).

**KNOWLEDGE PRODUCTIVITY IS...**

Although KP is a relatively new concept, the combination of the concepts of knowledge and productivity is not new. The awareness that knowledge and productivity are closely related already goes back for many decades. Some would argue that it goes back for several centuries (Warsh, 2006). In a sense, the importance of knowledge as an economic factor has always been the core of the economic sciences. The famous story about the pin factory in The Wealth of Nations (Smith, 2000, original publication 1776), already stressed the importance of knowledge accumulation (through specialization). However, as mathematics started to dominate the economic sciences, and as knowledge was hard to quantify, knowledge was long considered to be a side-effect, a spill-over, or residual. The acknowledgement of knowledge as an important wealth creating factor, has been an “underground river” that came to the surface every now and then, but only recently started to get accepted in mainstream economics and management sciences (Warsh, 2006).

In a sense, it was in *The production and distribution of knowledge in the United States* that Machlup (1972, original publication in 1962) rediscovered the importance of knowledge as a product. In his recalculation of the national product of the United States, Machlup discovered that “total knowledge production in 1958 already accounted for almost 29 per cent of adjusted GNP” (p.362). In addition, the “knowledge-industry” was not only the largest industry, but also grew faster than the traditional industries. These conclusions led to the observation that there should be some relationship between knowledge, value creation and economic growth.

It was Drucker (1981; 1993) who realized that the increased importance of knowledge as a source of production, had to be followed by a revision of the concept of productivity. As he realized that not only the main source of production (knowledge), but also the tools of production (brains) are owned