Chapter II
Construction of Knowledge-Intensive Organization in Higher Education

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ABSTRACT

The aims of knowledge management are to create knowledge and stimulate innovation. Knowledge management allows the knowledge of an organization to be located, shared, formalized, enhanced and developed. The challenges of knowledge management lie in creating environments that support knowledge sharing, knowledge creation, and innovativeness. This chapter examines challenges faced by Higher education institutions (HEI) in producing innovations and increasing their external impact on their regions. The most valuable assets of HEIs are the knowledge and skills embodied in human capital. The challenges of innovative HEIs can be derived from their customers’ needs, which usually cannot be met within a single discipline. This chapter explores the multidisciplinary development projects at HEIs and presents implications for the organizational structure supporting innovation and engagement of the institution with its region.

INTRODUCTION

Higher education institutions (HEIs) are facing challenges to produce innovations and increase their external impact on their regions. The most valuable assets of HEIs are the knowledge and skills embodied in human capital. The challenges of innovative HEIs can be derived from their customers’ needs, which usually cannot be met within a single discipline. The aims of knowledge
management are to create knowledge and stimulate innovation. Knowledge management allows the knowledge of an organization to be located, shared, formalized, enhanced and developed. The challenges of knowledge management lie in creating environments that support knowledge sharing, knowledge creation, and innovativeness.

HEIs must continually produce new knowledge and engage with their regions to remain competitive. An important by-product of knowledge creation is an innovation used in companies and by organizations outside of the institution. Companies and other organizations must continually innovate to remain competitive. A by-product of innovation is new knowledge (Matsumoto, Stapleton, Glass and Thorpe, 2005). HEIs assume entrepreneurial roles while companies develop an academic dimension to cooperate with HEIs (OECD, 2007).

This chapter will explore the multidisciplinary development projects at HEIs and present the implications for the organizational structure which supports innovation and the engagement of the institution with its region. This chapter is based on the foundations of knowledge management which support the cooperation of people from different backgrounds. The results of this study are useful to education administrators who aim to create an innovative institution which will contribute to the positive development of its region.

The chapter is organized as follows. The next section introduces the main characteristics of knowledge creation. Then the nature of multidisciplinary applied research and development is described. Based on the background and the characteristics of project work, the chapter presents the multidisciplinary organization that supports innovations and increases the external impact of HEIs. Empirical evidence is presented from the Turku University of Applied Sciences (TUAS). Finally, the future trends and results of the study are summarized in the concluding section.

**BACKGROUND: KNOWLEDGE MANAGEMENT IN DEVELOPMENT PROJECTS**

The extreme complexity of many development projects causes problems if the internal processes do not support the development work. Although several studies have acknowledged the importance of multidisciplinary development projects and team learning (Drucker, 1998; Dyer and Hath, 2006; Koskinen, Pihlanto and Vanharanta, 2003; Ruuska and Vartiainen, 2005), sufficient attention has not been paid to the need to restructure HEIs to support knowledge creation and promote innovation.

The promotion of innovation can be planned and managed in a structured way. It is important that the internal processes and structures of the knowledge-intensive organizations support the rapid creation of innovations and ensure that the strategic objectives of an organization are achieved. Despite the need to manage the operations in a structured way, the organization must have flexibility and the ability to respond to customer needs, technological development and other environmental changes. The flexibility and ability to operate in a synergic and innovative way are competitive advantages of knowledge-intensive organizations.

Takeuchi and Nonaka (2004) argue that a key factor behind the success of Japan’s innovation and of its research and development companies is the widespread process of socializing knowledge. That means sharing and articulating tacit knowledge within temporarily assembled project teams through effective dialogue. Tacit knowledge consists of individual ability, memory, know-how and experience, which have not been articulated in explicit form such as presentations, reports, journal, databanks, manuals and training materials. Even though knowledge management can be described using some formal procedures it is a very flexible framework in which the steps and
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