Chapter 9
Strategies and Tools for Knowledge Management in Innovation and the Future Industry

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ABSTRACT

The main purpose of this chapter is to examine two widely used knowledge management strategies and propose to each strategy complementary knowledge management tools that can help to encourage innovation, especially in the future Industry 4.0. Organizations are currently facing dynamic transitional changes and are becoming increasingly knowledge-based. Knowledge is an essential driver of innovation. Therefore, strategies must be implemented to support the knowledge management process. Strategies for knowledge management can be frequently oriented towards ICT or towards interpersonal relationships. For the support of knowledge management strategy, organizations may use technologies, techniques, and methods that are often referenced to as knowledge management tools. In Industry 4.0, strategically focused knowledge management could prove to be a critical component in securing the relevant knowledge to help foster innovation. Furthermore, the implementation of knowledge management strategies is shown to have a direct positive impact on organization's performance.

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INTRODUCTION

Nowadays, dynamic business environment is increasingly dependent and based more on high technology, which brings with it a high demand for knowledge and innovation. Organizations are recognizing the importance of knowledge and its role as a key resource in innovation (Du Plessis, 2007). With rapid digitalization and constant globalization, companies and even entire economies are becoming increasingly knowledge-based (Omotayo, 2015). Therefore, the knowledge management activities, which include generating, gathering, disseminating, applying, and storing knowledge, are critical for organization's success in innovation (Al-Hakim & Hassan, 2013). Modern organizations ride the wave of constant and dynamic technological changes, which in large part foster open innovation (Žemaitis, 2014). Meanwhile, the research shows that the level of innovation is heavily dependent upon the availability of knowledge (Du Plessis, 2007). For organizations to maintain or enhance the level of innovation, knowledge management processes must be holistically managed, which in term calls for action in the management function. Knowledge is an integral part of any organization's success. They no longer compete only on financial strength and financial success, but rather knowledge capabilities present the competitive advantage (Omotayo, 2015; Scaringella, 2016). Organizations' managers and especially knowledge managers need good and structured support in the form of strategies and in the form of strategically oriented tools, techniques, and technologies to successfully manage knowledge. These processes are, despite increased technological support, still largely people dependent, thus companies need professionals (knowledge managers) who would carry out the activities of planning, organizing and coordinating data as well as information and knowledge workers (Asllani & Luthans, 2003).

There is an apparent need for applicable and practical solutions in the future use of knowledge management to support innovation, see Roblek et al. (2016). This is especially evident in Industry 4.0, which represents the new technology-based manufacturing paradigm and is heavily knowledge dependent. Aforementioned dynamic indicates that in order to understand better what knowledge management is for and how to use it in strategic ways and in specific situations, an extensive literature review on the topic is needed. From the viewpoint of managerial practice, can in this context be helpful to understand that knowledge management is considered and classified as a management tool. Therefore, the framework for its use in future industry is already set (Nedelko et al., 2015; Črešnar & Nedelko, 2017; Nedelko et al., 2018). As a tool, knowledge management has attracted a lot of attention from management professionals, for its ability to deliver on strategic results in organization's profitability, competitiveness, and enhancement of capacity (Oluikpe, 2012; Omotayo, 2015). Moreover, it is also becoming increasingly popular as a tool to address required changes for employee competencies in Industry 4.0 (Črešnar & Nedelko, 2017).

Taking into consideration the recent industrial paradigm shift and the apparent need for growing innovativeness, strategic knowledge management can be a useful tool to deal with upcoming complexities. Which strategic focus organizations select for their knowledge management practices, depends upon their needs, goals, and available resources. This chapter shows that organizations may for the best results focus either on ICT or on interpersonal relationships to support their knowledge management (Hansen et al., 1999; Choi & Lee, 2002; Choi et al., 2008) or they might choose a mixed strategy, which is based on both concepts (Jasimuddin, 2008).

A practical way to support knowledge management strategies is with the use of knowledge management tools, which should be selected according to organization's strategic goals. However, in the literature,