

Chapter 26

The Knowledge Transfer Process on the Development of Dynamic Capabilities through Industrial Networks

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ABSTRACT

The overall objective of this study is to analyze the processes of knowledge transfer generated in networks in the industry to produce dynamic capabilities, specifically the development of innovation. To achieve the proposed aims, the relationship between network, innovation, learning and knowledge is analysed. Interactions between companies allow combining existing ideas to give new perspectives and also to create new ideas that are sources of innovation. To generate and transmit knowledge companies develop effective learning processes. The key points for the development of learning are: the creation of learning environments and the development of a collaborative culture of learning, based on trust, allowing interaction between companies for the mutual benefit of collaboration.

INTRODUCTION

Growing economic and technological complexity has made knowledge flows a key competitive factor for companies and regions. Therefore, industrial networks play a crucial role in allowing the interaction of multiple agents that collaborate in the creation, integration, transfer, and absorption of knowledge.

Knowledge resides in the individuals, technology and organizational structure (Argote & Darr, 2000) and can be transferred within or across firm boundaries. Knowledge is exchanged “*between two agents, during which one agent purposefully receives and uses the knowledge provided by another*” (Foss & Pedersen, 2002, p.163), which allows developing the capabilities of the agents (Phan & Pericles 2000).

DOI: 10.4018/978-1-5225-0130-5.ch026

Within an inter-organizational context, transfer of knowledge implies that a company generates knowledge source and a receiving company uses that knowledge to improve performance (Brookes, 2014).

In the literature about organizational learning, learning strategies have been shown that have an important bearing on the individual firms' knowledge outcomes (e.g., Park, Stylianou, Subramaniam, & Niu, 2015). As listed by Werner, Dickson, and Hyde (2015), organisational learning is a foundation for knowledge, through organisational routines, the learned individual knowledge is converted into organisational knowledge.

The literature indicates that learning is a dynamic capability and, as such, key in the development of competitive advantage (Teece, Pisano, & Shuen, 1997); through learning, knowledge is created and transmitted, and through knowledge, innovation is generated (Birchall & Tovstiga, 2005). In addition, there is a broad consensus that networks are an effective means of learning between companies (Melo & Beck, 2015). Therefore, between company networks are an important source of innovation (Bellamy, Ghosh, & Hora, 2014).

In fact, there is an important research line related to role of network in innovation process in industry (e.g., Broekel, Fornahl, & Morrison, 2015). In this line of research this work studies different types of collaborative relationships, such as technical or commercial collaborations (Tambo, 2014), across different countries and regions (Guan, Zhang, & Yana, 2015) and in several industrial sectors (Mazzola, Perrone, & Kamuriwo, 2015; Tambo, 2014).

The problem is to understand the process through which companies are able to generate knowledge across networks to generate innovation. This paper aims to analyse the role of networks in the innovation processes, and their relationship with the knowledge transfer processes. To complete this objective, this work has been divided into seven points. First, the issue of dynamic capabilities is addressed and a review of the concept, the associated characteristics and origin is conducted. Second, the creation and transmission of knowledge are analysed. Third, the knowledge transfer process is studied. In the fourth point, the networks and their relationship with innovation in enterprises are analysed. Fifth, the recommendations for management are presented. Sixth, some future lines of research are proposed. Finally, in the seventh point, the findings are noted.

Through all these points the process of "innovation-change" as described by Tovstiga and Birchall (2005) is fully addressed; it is assumed that external learning is generated by relations of collaboration between companies. Through this learning, knowledge is created and transferred between organisations, which in turn facilitates innovation. This innovation produces changes in companies and leads to a new learning process.

This work provides a systemic view that is not only limited to the role of knowledge transfer in the innovation processes, but also delves into the process of organisational learning and the strategies that companies can use to facilitate learning, develop knowledge and improve innovation.

DYNAMIC CAPABILITIES

The dynamic capabilities perspective appears in the literature to advance the focus on resources and capabilities (Eisenhardt & Martin, 2000). Dynamic capabilities are the strategic routines that allow a company to get new configurations of its resources. The approach of dynamic capabilities is still an important topic of study for two reasons: (1) it is valid both in the field of research and to provide support to managers who intend to gain competitive advantage in increasingly dynamic environments; and (2)

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