Recognizing Knowledge Leakage and Knowledge Spillover and Their Consequences

Helio Aisenberg Ferenhof, Universidade Federal de Santa Catarina and Complexo de Ensino Superior de Santa Catarina, Florianópolis, Brazil

ABSTRACT

This paper is interested in reviewing the literature on knowledge leakage and spillover together in order to understand their existence on organizations, establish the current body of knowledge and, on this basis, suggest some promising avenues for future research. The study consists of a systematic review of peer-reviewed articles addressing knowledge leakage and spillover in organizations. As a result a better understanding of the differences and similarity as well as challenges and opportunities of knowledge leakage and knowledge spillover that could assist practitioners to better cope with risks when developing innovation is shown in a conceptual model. From an academic perspective, the paper may provide a starting point for new researches that are interested in knowledge at risk.

KEYWORDS

Knowledge at Risk, Knowledge Leakage, Knowledge Risk Management, Knowledge Spillover, Literature Review

1. INTRODUCTION

The work of Durst, Aggestam, and Ferenhof (2015) presents a literature review on knowledge leakage. It underlines that organizations should establish strategies to enable better knowledge management actions to compensate for the negative effects of knowledge leakage and improve the chances of the positive ones. Given the relevance of the topic, this paper is interested in going further in understanding the existence of knowledge leakage and knowledge spillover in organizations. The former is divided by Durst and Ferenhof (2014) into knowledge and capability shortages, and knowledge exposure. The former refers mainly to turnover, whereas the latter occurs in situations when organizations enter into strategic alliances, outsource parts of their business functions, or where parts of its core knowledge are shared with others. On the other hand, knowledge spillover as stated by Albornoz et al. (2009), refers to knowledge overflows, which can support innovation and contribute to productivity growth and/or competitiveness. This may happen when companies transfer knowledge that encompasses both technology and know-how of foreign affiliates by some kind of leaks and which is absorbed by those firms. According to Jost and van der Velden (2008), knowledge leakage and knowledge spillover are related and can have both positive and negative impacts on organizations, depending on the way they occur and the quality of the exchange.

In the era of innovation, many companies regardless of size are being pushed to outsource, make joint ventures, transfer knowledge to other business partners, or develop new businesses or additional companies (Jost & van der Velden, 2008). Taking a holistic perspective of knowledge—seeing knowledge as both as an asset and a liability—the purpose of this paper is to review extant empirical research on both knowledge leakage and knowledge spillover in organizations to establish our current body of knowledge. According to Jost and van der Velden (2008), only small levels of spillover must...
exist in industries because spillovers may reduce the positive profit effect arising from competition. Supporting that line of thought, Czarnitzki and Kraft (2012) highlighted that incoming knowledge spillover is expected to have a positive impact on firms Conversely, knowledge spillover going out to rivals will most likely have a negative effect on the originating company. Against this backdrop, the present article’s aim highlights the importance of having a better understanding of knowledge spillover and knowledge leakage. The author believes that both theory and corporate practice will gain a better understanding and ultimately benefit from it.

As already stressed by Durst et al. (2015), there is a need for more studies on knowledge leakage, and this paper intends to assist in this issue.

2. THEORETICAL BACKGROUND

There is a slight difference between knowledge spillover and knowledge leakage, relating to the way the knowledge exceeds company boundaries. Knowledge spillover, as stated by Albornoz et al. (2009), may happen when companies transfer knowledge that encompasses both technology and know-how of its foreign affiliates by some kind of leak and which is then absorbed by those firms. On the other hand, as stated by Durst and Ferenhof (2014), knowledge leakage may occur in situations when parts of their business functions are outsourced, or parts of the core knowledge are transferred to others. In the case of knowledge spillover, the knowledge overflows from one company to the companies’ affiliate(s). They are sharing the same location or those that are nearby at the perimeter, normally associated with an ambient of trust. However, knowledge leakage does not necessarily rely on proximity alone. It could occur through any disclosure of core knowledge to external entities. According to Jost and van der Velden (2008), knowledge leakage and knowledge spillover are related and can have both positive and negative impacts on organizations, depending on the method and quality by which they occur. One example of a positive aspect is a joint venture where, in an effort to win a patent depends on the R&D investments of all firms together. On the other hand, if there are complete spillovers throughout the industry (the entire market), the investments in R&D will not result in competitive advantage, and instead have a negative impact on the business. According to Albornoz et al. (2009), the positive spillover effect occurs when domestic exporters use their absorptive capacity to get knowledge from outsiders or within multinational corporations. Bhattacharya and Guriev (2006) describe the positive impact as the cooperation among the companies, but the negative impact is the risk that further information may be disclosed to a competitive player.

Albornoz et al. (2009) highlight that the productivity spillover literature assumes that multinational corporations (MNCs) transfer knowledge comprising both know-how and technology to foreign affiliates, which then somehow leaks and is absorbed by firms in the domestic economy. In the words of Albornoz et al. (2009), when MNCs spillover, it increases the productivity growth and/or competitiveness of the domestic company that absorbed that knowledge, leading to economic gains. However, one of the motives assumed for the lack of productive spillovers is that foreign firms attempt to minimize knowledge leakage, as stated by Albornoz et al. (2009, p. 136), to prevent “the propagation of technology to possible competitors.” At this point, it is significant to emphasize that understanding the potential danger of knowledge leakage is important because it can cause immense direct and indirect costs to the firm (Durst & Wilhelm, 2011).

What is highlighted by the current article is that knowledge spillover, if not planned and managed, can do harm to the business; whereas, if it is planned and managed, it could improve company results. As stated by Czarnitzki and Kraft (2012), spillovers play an important role, as they can increase productivity of an entire industry. The authors also presented microeconomic analyses that show
Wireless Sensor Networks: An Emerging Solution for Underground Mines
www.igi-global.com/article/wireless-sensor-networks/176692?camid=4v1a

Enhancing Video Viewing Experience
www.igi-global.com/chapter/enhancing-video-viewing-experience/46287?camid=4v1a