The role of knowledge-oriented leadership in knowledge management practices and innovation

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ABSTRACT

This study aims to examine the role of a specific type of organizational leadership – knowledge-oriented leadership – in knowledge management (KM) initiatives that seek to achieve innovation. An analysis of the knowledge-based view of the firm gives rise to several hypotheses, with structural equation modeling (SEM) analysis through partial least squares (PLS) providing the methodology to test these hypotheses. This approach yields results for a sample of empirical data from technology industries. This paper presents empirical evidence of the mediating effect of KM practices in the relationship between knowledge-oriented leadership and innovation performance. In line with previous literature, results show that, although KM practices themselves are important for innovation purposes, the existence of this kind of leadership encourages the development and use of KM exploration (i.e., creation) and exploitation (i.e., storage, transfer, and application) practices. A major implication is that, as a result of this development and the use of KM practices, the firm is able to improve its performance in product innovation.

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1. Introduction

Emerging in the nineties, knowledge management (KM) is a well-established discipline in the academic field and business world alike. Based on the principles of KM, organizations worldwide develop and implement KM initiatives to improve the efficiency of business processes, increase the productivity and quality of their services, and find new solutions and products for their customers (Nguyen & Mohamed, 2011). Moreover, in technological settings, innovation is usually a direct outcome of KM effectiveness (Darroch & McNaughton, 2002; Du Plessis, 2007) as well as being one of the main objectives for knowledge-creating companies in their pursuit of competitive advantages (Nonaka & Takeuchi, 1995).

Although the importance and use of KM for organizations is unquestionable, recent reports such as Bain's Management Tools and Trends 2011 reveal low satisfaction rates among managers in relation to both the use of this management tool and the results of its application (Rigby & Bilodeau, 2011). In general, the design and implementation of KM practices are a difficult task for managers, and the effectiveness and success of such practices depend heavily

on their optimal adjustment to organizational factors (Bierly & Daly, 2002). Consequently, managers should establish the ideal contextual conditions to propel and optimize the organization's use of KM practices and initiatives through the design of tools such as human resource management (HRM) practices (e.g., Chen & Huang, 2009; Lin, 2011; López-Cabrales, Pérez-Luño, & Valle-Cabrera, 2009), setting well-defined corporate culture (e.g., DeTienne, Dyer, Hoopes, & Harris, 2004; Donate & Guadamillas, 2010; Nguyen & Mohamed, 2011), the implementation of technology systems (e.g., King & Marks, 2008; Lai, Wang, & Chou, 2009; Lin & Huang, 2008) and the establishment of organizational structures (e.g., Gold, Malhotra, & Segars, 2001; Singh & Kant, 2009).

Leadership behavior is another important factor, since leaders have an enormous impact on the direction and effectiveness of KM within their organizations (Nguyen & Mohamed, 2011). On the one hand, leaders can create conditions that allow participants to exercise and cultivate their knowledge manipulation skills, to contribute their own individual knowledge resources, or to obtain easier access to relevant knowledge (Crawford, Gould, & Scott, 2003; Politis, 2002). On the other hand, leadership behaviors may present major barriers to creating and leveraging knowledge (Bryant, 2003; Politis, 2002; von Krogh, Nonaka, & Rechsteiner, 2012), as they can result in knowledge hoarding, competition – rather than cooperation – and a host of other negative attitudes for knowledge-creating companies (Lakshman, 2009; Yahya & Goh, 2002).

Despite the great importance of leadership in KM, researchers have only recently begun to explore the role of leaders in KM, relating specific

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management styles to good KM (Lakshman, 2009: 388). For example, Yang (2007) associates *innovator, mentor* or *facilitator* roles with high levels of knowledge sharing. Similarly, Singh (2008) finds that a delegating as opposed to a directive – high level of control over employees and low level of nurture – leadership style has a positive relationship with all KM practices in technological settings. In a more recent work, von Krogh et al. (2012) develop a framework for situational leadership in knowledge creation by integrating notions such as Ba – the environment for knowledge creation – the SECI model, knowledge assets and leadership behaviors (Nonaka & Konno, 1998; Nonaka & Takeuchi, 1995). These authors also stress the necessity to carry out additional research to clarify the role of organizational leadership in KM activities and processes.

Following this suggestion, this paper focuses on organizational leadership as an essential condition for the development and encouragement of KM practices for innovation purposes in technology-intensive firms. As competitive advantages for these companies essentially equate to new product development, such firms need to explore and exploit knowledge assets in a quick, effective, flexible manner (DeCarolis & Deeds, 1999; Subramaniam & Youndt, 2005). This study specifically aims to address the following research question: how can companies take full advantage of KM initiatives in innovation through organizational leadership? In doing so, this paper addresses three main objectives: (1) to analyze the influence of a specific type of organizational leadership – knowledge-oriented leadership – on KM practices (i.e., creation, transfer, storage, and application); (2) to analyze the effect of KM practices on product innovation performance; and (3) to explore the mediating role of KM practices in the relationship between knowledge-oriented leadership and performance in product innovation.

In meeting these objectives, this paper contributes in several ways to this research field. First, researchers rarely consider connections between three separate bodies of literature such as leadership, KM, and innovation. Forging links between these three areas is the principal focus of this study. In this vein, this paper introduces and tests a theoretical model that links these concepts. Several existing studies cover the theoretical and empirical analysis of relations between leadership, innovation, and specific KM processes (e.g., Singh, 2008; von Krogh et al., 2012; Yang, 2007). Nonetheless, a considerable gap remains in the study of the general leadership conditions that allow knowledge-intensive companies to explore and exploit organizational knowledge simultaneously to achieve competitive advantages from innovation. This research thus makes strides toward filling this gap by studying what kind of leadership is most adequate to fully develop and support these KM initiatives in innovation.

Second, this research examines the effect of a distinctive type of leadership behavior – *knowledge-oriented* leadership – on the KM initiatives that attract the most universal acceptance in the KM literature. Knowledge-oriented leadership includes knowledge creation, transfer, storage, and application (Alavi & Leidner, 2001). This article adopts a more ambitious scope than that of the existing literature on KM leadership styles, by offering a measure for knowledge-oriented leadership, a factor that affects KM activities in technology-intensive firms (i.e., companies that need to both explore and exploit knowledge to confront changes in the market rapidly and flexibly) (Jansen, Van Den Bosch, & Volberda, 2006). While the leadership literature mainly focuses on specific leadership styles that fit with either explorative or exploitative innovation or specific KM initiatives (e.g., Mumford, Scott, Gaddis, & Strange, 2002; Singh, 2008; Yukl, 2009), this paper stresses the role of a general, knowledge-oriented form of leadership that simultaneously supports both explorative (i.e., creation) and exploitative (i.e., storage, transfer, and application) initiatives; an approach that extant KM studies have yet to adopt. This paper thus contributes to current research into which organizational elements support ambidextrous organizations (Miller, Bierly, & Daly, 2007; Raisch & Birkinshaw, 2008).

Third, this paper contributes to research by presenting a comprehensive model that captures the relationships between KM practices and knowledge-oriented leadership. Statistical testing of the model through partial least squares (PLS) path analysis provides an indication as to the model's utility. Although the idea of ambidextrous organizations (i.e., organizations with the capability of exploring and exploiting knowledge equally well) is hardly a new concept, Rosing, Frese, and Bausch (2011) point out that applications of organizational ambidexterity in organizational leadership are rare. In this regard, the current study works under the assumption that innovation leaders need to switch flexibly between complementary leadership behaviors in an attempt to adjust to the requirements of both explorative and exploitative KM activities. Knowledge-oriented leadership is thus a necessary instrument that is based on a mixture of transformational and transactional leadership styles, along with communication and motivational elements (Ribiere & Sitar, 2003). Overall, the arguments in this paper demonstrate that this kind of organizational leadership is necessary for technology-intensive organizations to improve their innovation performance through the effective development and implementation of KM initiatives.

The paper has the following structure. A discussion of the theoretical background and research questions under study follows this introductory section. Next, the third section presents the methodology and main results of the statistical analysis. Finally, the paper closes with a discussion of the research findings and the principal conclusions of the study.

2. Theoretical background and hypotheses

2.1. Knowledge-based theory and knowledge management

Recent work in the Economics and management literature is contributing to developing a knowledge-based theory of the firm, which cites the primary reason for the existence of firms as being the creation, integration, and utilization of knowledge (Grant, 1996; Kogut & Zander, 1992). The knowledge-based view (KBV) has its roots in the resource-based view of the firm, which focuses on strategic assets as the main source of competitive advantages (Amit & Schoemaker, 1993). In contrast, under the KBV, knowledge is the main strategic resource, which, when properly managed, allows the firm to create value from its exploitation of production (DeCarolis & Deeds, 1999; Zack, McKeen, & Singh, 2009). Accordingly, the firm is the embodiment of a knowledge-bearing entity that manages its knowledge resources through its combinative–dynamic capabilities (Kogut & Zander, 1992). Nevertheless, as Argote and Ingram (2000: 156) point out, "the problem for those who want to develop competitive advantage for their organizations, however, is that, in the field of business strategy, more effort has gone into identifying knowledge as the basis of competitive advantage than into explaining how organizations can develop, retain, and transfer that knowledge."

Therefore, companies should develop and implement a series of activities or initiatives to help deploy their organizational capability and extract value; in other words, they should adopt so-called KM practices (Grant, 2002). The main goal of an organization's use of KM is to gain awareness of its knowledge, individually and collectively, and to shape itself in such a way as to make the most effective and efficient use of the knowledge the firm has or is able to obtain. Alavi and Leidner (2001) point out that the use of KM practices, frequently relying on information and communication technologies (ICTs), leads to positive organizational outcomes such as enhanced communication and higher levels of participation among staff members, efficiencies in problem solving and time-to-market, more favorable financial performance, better marketing practices, and improved project team performance, hence the widespread acknowledgement of the contributions of KM to an organization's overall success. Nonetheless, in technology-intensive industries where competitive advantage depends heavily on