



Knowledge management capabilities and firm performance: A test of universalistic, contingency and complementarity perspectives



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ABSTRACT

Competing theoretical perspectives regarding the effects of knowledge management (KM) on performance have underpinned past empirical studies. By explicitly surfacing and comparing three such perspectives, we contribute to the theoretical advancement of the KM field. We develop hypotheses consistent with the underlying logics of universalistic, complementarity and contingency theories and we empirically test these hypotheses to determine which is best supported. Data was collected from a sample of hospitality services firms operating in South Africa. Our results show that the universalistic perspective is less preferred. We find support for the complementarity perspective by revealing that codification and human capital KM capabilities interact to influence customer service outcomes. The contingency perspective also received support as the links between KM capabilities and performance were found to be contingent on the business strategy of the firm. Our results suggest that future researchers should explicitly acknowledge the theoretical perspective from which they are observing the performance impacts of KM and ensure that empirical tests are consistent with the logic of the selected perspective.

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1. Introduction

Researchers have devoted much attention to empirical examination of the link between knowledge management (KM) and firm performance. Efforts have typically concentrated on the KM capabilities required for the externalization and codification of organizational knowledge, and for the development and retention of tacit knowledge embedded in human capital. Although not always explicitly acknowledged, competing theoretical perspectives regarding the inter-relationship between these two KM capabilities and their implications for performance have however underpinned this past work. Some researchers view codification and human capital oriented KM capabilities as independent predictors of performance and imply that their effects are *universal* across operating contexts (e.g. Andreeva & Kianto, 2012; Wang & Wang, 2012). Others view them not as independent but as *complementary* and examine whether they act synergistically to effect performance outcomes (e.g. Choi & Lee, 2003; Gloet & Terziowski, 2004; Storey & Hull, 2010). Another group of researchers takes a *contingency* view (e.g. Hansen, Nohria, & Tierney, 1999), and find codification more important to performance in certain contexts and

human capital KM more important in others (e.g. Chen, Yeh, & Huang, 2012; Greiner, Böhmman, & Krcmar, 2007).

Unfortunately, the growing volume of empirical research into KM has not provided an answer as to which of the three perspectives offers a better explanation for the performance implications of KM. As suggested elsewhere in the management literature (Chênevert & Tremblay, 2011; Delery & Doty, 1996), it is important to the theoretical advancement of a field that alternate perspectives are explicitly surfaced and compared. To that end, this paper aims to contrast universalistic, complementarity and contingency perspectives on the KM-to-performance relationship. We develop hypotheses consistent with the underlying logic of each perspective and we empirically test these hypotheses to determine which is best supported. Our approach will provide important guidance for future research efforts.

We select the South African hospitality services sector as the empirical context for our study. Much past KM research has been carried out in manufacturing and high-technology industries (e.g. Liu, Chen, & Tsai, 2004; Liu & Tsai, 2007; Marqués & Simón, 2006) or within mixed-industries (Andreeva & Kianto, 2011; Gold, Malhotra, & Segars, 2001; Lee, Lee, & Kang, 2005; Sabherwal & Sabherwal, 2005). The effects of KM capabilities on the performance of firms in service sectors such as hospitality has received less attention. Hospitality services are however

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recognized for their knowledge intensity. Because service delivery in hospitality occurs as a result of interaction between customers and employees, effective service delivery demands that employees are knowledgeable about customer preferences and corresponding service procedures (Bouncken, 2002; Hallin & Marnburg, 2008). High rates of employee turnover, high percentages of unskilled employees and changing customer preferences increases the pressure on hospitality firms to improve their processes for transferring and saving knowledge, learning from employees' experiences, and utilizing knowledge in service encounters (Bouncken, 2002). We therefore have an additional opportunity to extend theories of KM into this high-potential but under-researched knowledge context.

The next section of this paper presents the conceptual background to our study. We discuss the two KM capabilities and contrast the universalistic, complementarity and contingency perspectives on how these two capabilities influence performance. Drawing on the three perspectives, the study's hypotheses are then developed. This is followed by a description of the research methods, presentation of the empirical findings and conclusions.

2. Conceptual background

Codification and human capital approaches to KM are rooted in the differences between explicit and tacit knowledge (Polanyi, 1966). A knowledge codification capability is characterized by a coordinated managerial effort to externalize and formally represent the organization's explicit knowledge base (Hansen et al., 1999; Rastogi, 2000). It is reflected in formalized procedures for knowledge acquisition, and for converting and integrating acquired knowledge, storing it in documents and computer systems, making it usable and accessible, and embedding it into routines and operating processes (Choi & Lee, 2003; Gold et al., 2001; Greiner et al., 2007). Chong and Chong (2009) refer to this as a process of knowledge construction, embodiment and deployment. Information technology (IT) solutions are highly important to such codification efforts and play a predominant role in the acquisition, storage and retrieval, protection, distribution and application of the firm's knowledge (Alavi & Leidner, 2001; Bhatt 2001; Davenport, De Long, & Beers, 1998; Gold et al., 2001). Codification is associated with explicit-oriented (Choi & Lee, 2003) and IT paradigms of KM (Gloet & Berrell, 2003).

Human capital oriented KM emphasizes the value of tacit knowledge resident in the minds of the individual employees who constitute the firm's human capital. However, unlike IT-based knowledge repositories, human capital is not 'owned' by the firm (Bontis, Keow, & Richardson, 2000; Engström, Westnes, & Westnes, 2003). Knowledge remains tied to individuals (Haesli & Boxall, 2005), and is only available to the organization through employee willingness and motivation to contribute it (Zhou & Fink, 2003). Therefore, human capital oriented KM focuses on ensuring employee commitment and retention and successfully motivating employees to share their knowledge (Choi & Lee, 2002; Choi & Lee, 2003; Meso & Smith, 2000; Smedlund, 2008; Šajeva, 2010). This human capital oriented capability has varying been referred to as the personalization (Hansen et al., 1999), tacit-oriented (Choi & Lee, 2003) and humanist paradigms of KM (Gloet & Berrell, 2003).

The universalistic perspective considers these two KM capabilities as having independent effects on performance outcomes. Devoting more effort to the management of codified knowledge stocks and to the management of tacit knowledge and human capital should always be better than less effort for all firms. Recent empirical studies support this perspective. For example, Andreeva and Kianto (2012) found that IT and human capital based KM were independently associated with the firm's competitiveness. Others

have found similar effects. López-Nicolás and Meroño-Cerdán (2011) studied 310 Spanish firms from a mixed-industry sample and found codification and personalization to have independent effects on multiple dimensions of organizational performance. Furthermore, Wang and Wang (2012), in a study of 89 high-technology firms in China, found both explicit knowledge sharing (codification) and tacit knowledge sharing independently associated with various performance outcomes.

In contrast to the universalistic perspective, the complementarity perspective argues that the two KM capabilities are not independent but mutually reinforcing. They act synergistically and should be integrated into a more complete KM capability. This view is grounded in recent extensions to the resource based view of the firm, which contends that firm resources and capabilities can be configured into a complementary system where their joint value is greater than the sum of their individual values (Tanriverdi & Venkatraman, 2005). Bhatt (2001) acknowledged this perspective by suggesting that KM is best achieved through the interaction of people and technological subsystems. Jasimuddin, Klein, and Connell (2005) termed this a symbiosis strategy for KM. If a complementarity exists then individual capabilities acting in isolation will result in little performance gain while an integrated capability would improve performance (Choi, Poon, & Davis, 2008; Tanriverdi, 2006). Empirical findings have supported this complementarity perspective. For example, Choi and Lee (2003) found that explicit and tacit methods interact to create a 'dynamic' KM style that outperforms other styles that emphasize only one or the other. Additionally, Gloet and Terziowski (2004) concluded that innovation performance in manufacturing firms was dependent on an integrated approach of 'soft' human capital and 'hard' IT based KM practices, whilst in the services context Storey and Hull (2010) found that firms with a 'combination' KM strategy had the highest levels of service innovation performance.

Finally, the contingency perspective asserts that the relative importance of each KM capability depends on the operating context of the firm. This is rooted in contingency theory's proposition that performance is dependent upon the appropriate alignment or fit of contextual factors with internal organization design (Zeithaml & Zeithaml, 1988). A firm will incur high costs attempting to build and pursue a combined KM capability and will not enjoy the expected returns if codified and tacit knowledge have varying levels of importance to different types of firms. Firms should therefore not look to reconcile the tensions between codification and human capital oriented KM but rather select between the two approaches in a manner that best fits individual firm circumstances (Hansen et al., 1999). The business strategy of the firm represents one of the most important contextual factors underpinning the contingency perspective where the alignment of KM to business strategy is considered important for performance. For example, Shih and Chiang (2005) found that cost leaders emphasize re-utilization of knowledge and lower the costs of knowledge provision by implementing codification and IT-based KM, while companies pursuing differentiation strategies emphasize interactions and interpersonal connections among organization members for the creation of new knowledge. Furthermore, Truch and Bridger (2002) found that knowledge orientations vary across the business strategy types of prospector, analyzer, defender and reactor, and not all knowledge orientations are associated with performance across all strategy types. Based on a multiple case study of 11 German and Swiss companies, Greiner et al. (2007) concluded that that a business strategy focused on efficiency requires a codification strategy and a business strategy focused on innovation requires a personalization KM strategy. Thus from the contingency perspective, organizations should emphasize either codification or human capital KM in a manner that aligns with their business strategy.

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