Understanding the effect of knowledge management strategies on knowledge management performance: A contingency perspective ☆

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ABSTRACT

The universalistic perspective research on employing a unidimensional knowledge management (KM) strategy has yielded conflicting findings and recommendations in different contexts. This study proposes a contingency model for investigating the effects of KM strategies on KM performance to resolve these contradictions. Drawing on the knowledge-based view (KBV) of the firm, which identifies knowledge type and origin as two key KM dimensions, this study first defines four KM strategies: external codification, internal codification, external personalization, and internal personalization. A multiple contingency model of KM strategy is then developed based on a technology–organization–environment framework. This study proposes that the effectiveness of each KM strategy depends on both external and internal contextual conditions, namely, environmental knowledge intensity and organizational information systems (IS) maturity. To test and validate the contingency model, we analyze data from 141 firms to explain the effects of KM strategies on KM performance. Our results reveal three KM strategies, not including the internal personalization strategy, which have a significant association with KM performance in their hypothesized contexts. This study expands KM strategy research by theoretically developing an advanced contingency model aligned with external and internal contexts and by providing valuable practical suggestions to managers for selecting a KM strategy based on multiple contingencies related to the external and internal conditions of a firm.

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1. Introduction

Developing a knowledge management (KM) strategy is important in effective KM. An appropriate KM strategy enables a firm to create, acquire, access, and leverage knowledge in a timely manner, thereby resulting in better performance [1]. Considering this KM strategy impact, the knowledge-based view (KBV) of the firm has extended the resource-based view (RBV) of the firm, which contends that organizational resources should be valuable, rare, and appropriable to generate a competitive advantage and be sustainable over time because of their low substitutability, low mobility, and low imitability. That is, the KBV contends that organizational knowledge is the primary resource for creating and sustaining competitive advantage [2].

Although prior studies on KM have improved our understanding of KM strategy, its roles and impact are fragmented for several reasons. First, studies on KM strategy have primarily adopted the universalistic perspective under the assumption that certain KM strategies are consistently effective regardless of their organizational contexts [3,4]. However, overlooking contextual factors creates a vulnerability to contingencies under certain conditions because the effects of different KM strategies on knowledge management performance (KMP) are themselves affected by a firm's external and internal contexts. Nonetheless, the alignment of KM strategy with organizational contexts has not been fully addressed in the KM literature [5,6]. Second, the KBV has devoted substantial attention to KM strategy analysis by identifying two major dimensions at the firm level: (1) the extent to which knowledge is accumulated by a person or a system (knowledge type) [7,8]; and (2) whether knowledge originates from within or outside a firm (knowledge origin) [9,10]. However, previous studies examining the effects of KM strategies on KMP have only considered a single KM dimension—either knowledge type (system/person) or origin (external/internal)—and have neglected the possible combinations of these two dimensions [e.g., 4,6]. Therefore, these studies do not elucidate the effect of KM strategies because of

their failure to investigate interactions between different strategic dimensions of KM.

To explore these gaps, this study uses the KBV to define individual KM strategies that indicate the two dimensions of strategic KM approaches: i.e., knowledge type and origin [11]. Combining both dimensions, this study proposes four KM strategies: *external codification* (external system-oriented), *internal codification* (internal system-oriented), *external personalization* (external person-oriented), and *internal personalization* (internal person-oriented). To suggest the optimal choice of KM initiatives given multiple contingencies, we propose a contingency model based on the technology–organization–environment (TOE) framework [12], which identifies *environmental knowledge intensity* and *organizational information systems (IS) maturity* as two key contextual factors that interact with KM strategy. As proposed by Sambamurthy and Zmud [13], the multiple key contingencies that we propose for organizations using the four KM strategies posit that KMP is determined by a firm's fit formation of KM strategies with its external information-processing needs arising out of its environment and its internal, technology-oriented capabilities [14]. The major premise underlying this study is that the effectiveness of KM strategies depends on their external and internal contexts [15,16].

Specifically, this study aims to answer the following question: How does the effect of KM strategies on KMP differ depending on a firm's external and internal contexts, i.e., the degree of environmental knowledge intensity and the level of organizational IS maturity? This study attempts to answer the question using data collected from 141 Korean firms that have implemented enterprise-wide KM initiatives. This study expands KM strategy research by theoretically developing an advanced contingency model aligned with external and internal contexts and by providing valuable practical suggestions to managers in selecting a KM strategy that will be successful in different external and internal contexts. We also believe that our two factor-contingencies fill another gap in the KM literature, which faces difficulty in integrating the effect of KM strategy into multiple contingencies, such as business-related environmental and information system (IS)-oriented organizational contexts [14], in an empirical analysis. The gap is primarily due to the tradeoff between the omitted variable bias among multiple existing contingencies and a parsimonious research design for robust empirical evidence [17]. The findings of this study can be added to existing studies from North America [4,18,19] and Europe [5,6,8] to provide a more international and comprehensive perspective on KM strategies.

2. Knowledge management strategy

Research on the effect of KM strategies on KMP has yielded conflicting findings in different contexts [e.g., 8,18–20]. For example, certain studies [8,19] propose that the internally system-oriented KM strategy provides firms with a competitive advantage because people can easily access and acquire codified knowledge from internal rather than external sources. However, other studies [18,20] indicate that this strategy has the opposite effect. The basis for those studies' conclusions is that overreliance on codified knowledge-oriented strategy results in internal knowledge losing its integrity and the causal connections between organizational knowledge and firm-specific contexts in which knowledge is applied because codified knowledge in electronic form primarily contains basic and general information rather than new insights or creative ideas. Thus, prior studies have not fully resolved such conflicts, as summarized in Table 1.

The KBV indicates that conceptualizing the type and origin of organizational knowledge is important to simultaneously explain organizational learning [19,20]. However, little is known about the combined functions of knowledge type and origin, despite their interrelationship. This insufficient consideration has seriously limited the KBV because the functions and effects of different knowledge aspects have not been understood in an integrated manner. Although KM researchers have emphasized the need to simultaneously consider external and internal contexts, prior KBV-based studies have not integrated multiple contexts into a single study [e.g., 5,6]. In prior KM studies, the relationship of a firm's strategic effort with its environment was not a key concern in explaining how the firm improves its KMP [5]. Therefore, the KBV must be advanced by considering strategic KM alignment in both external and internal contexts.

To fill these research gaps, this study uses the KBV to define KM strategies based on two major dimensions of KM—knowledge type (person- or system-oriented) and knowledge origin (internal- or external-oriented). The KBV suggests that implementing a KM strategy requires not only firm-specific accumulated knowledge assets but also knowledge flows within or channeled into a focal firm, which is assimilated and developed into its accumulated knowledge [11]. Therefore, we define *KM strategy* as *a logical plan with regard to firms' decisions about the types and origins of knowledge to create and sustain a competitive advantage*. KM strategy does not need to be a conscious, unidimensional decision; rather, it may be a manifestation of multiple decisions.

The effects of KM strategies on KMP, the degree to which a firm achieves knowledge-oriented benefits by adopting and implanting KM [21], have been analyzed from various theoretical perspectives, such as the integrative capability view [10], knowledge sourcing theory [1], organizational learning theory [22], and transaction cost theory [4]. In particular, the KBV posits that organizational knowledge is the most significant resource that leads to long-term, sustainable, competitive advantage [2]. The main focus of KBV is on value creation through the use of knowledge. Thus, its core purpose is to understand how KM should be pursued to improve a firm's capability and performance.

A critical contribution of the KBV is the recognition of two KM dimensions based on *knowledge type*: system-oriented (codification) and person-oriented (personalization) [3,7]. Although several studies across disciplines such as economics, psychology, strategic management, and IS have proposed different dimensions of knowledge, the most enduring distinctions are both explicit and tacit [8]. Codification and personalization provide underlying mechanisms for creating, accessing, and acquiring both explicit and tacit knowledge. *Codification* relies on simple and explicit knowledge and attempts to improve firm performance through the use of KM systems [23]. *Personalization* deals with complex and tacit knowledge and applies personal contacts and socialization processes to increase the effectiveness of KM [3].

Another contribution of the KBV is identifying two distinct KM choices based on *knowledge origin*: internal-oriented and external-oriented [9]. Thus, the forces that motivate a firm toward internal knowledge sourcing may not be the same as those motivating it away from external knowledge sourcing [24]. The *internal-oriented* approach attempts to increase firm performance by integrating knowledge within a firm's boundaries [18]. Knowledge generated within a firm is unique and specific. Thus, competitors may find it difficult to imitate that knowledge, yielding considerable value for the firm. By contrast, the *external-oriented* approach attempts to import knowledge from outside sources via acquisition or imitation and then transfer that knowledge within the organization [25]. Thus, firms can obtain fresh ideas to complement their knowledge bases, thereby leading to higher KMP [4].

Individual KM approaches can improve KMP. However, generating synergies among the four KM dimensions can be more beneficial to firms. Given the existing synergies among the approaches based on knowledge type and origin, the KBV suggests