

**The Impact of Knowledge Management Strategies on Organizational Performance:**

*Part I: Developing a Model to Test Earl's Taxonomy*

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## **Knowledge Management Strategies and Organizational Performance:**

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#### **Abstract**

Many organizations have recognized that knowledge is the most important resource in today's economy. Propelled by the resource- and knowledge-based views of the firm, organizations are actively embracing knowledge management with the expectation of acquiring and maintaining high levels of organizational performance. However, because knowledge management as a formal practice is still in its infancy and not yet well understood, many organizations are unable to attain expected performance. To help organizations, management consultants and academicians are proposing various knowledge management strategies. Despite the proliferation of strategies, to date, there have been little or no large-scale empirical studies to demonstrate the relationship between various knowledge management strategies and organizational performance. With limited resources at their disposals, organizations need to know and implement only those strategies that are more beneficial to them.

This paper presents the first part of our efforts to study the relationships between knowledge management strategies and organizational performance. We discuss the strategies available to organizations, and elaborate on a model for an empirical test of Michael Earl's Taxonomy of knowledge management strategies. Earl's taxonomy has been selected because it encompasses most of the other strategies we identified in the literature. Our model hypothesizes how elements of the taxonomy and a number of organizational and environmental-related factors relate to organizational performance. Understanding these relationships is essential for managers if they hope to improve performance through knowledge management.

**Keywords:** Knowledge management, knowledge management strategies, Earl's Taxonomy

## **1. Introduction**

The recognition that knowledge (rather than labor, land or capital) is the key resource of production [1], making it the “new wealth” of organizations [2] is largely responsible for the development and implementation of knowledge management (KM) strategies in organizations.

As a formal field of activity, however, KM is still in its infancy and is not well understood by many organizations [3], [4]. While some early adopters of KM such as Skandia, BP Amoco, Dow Chemical, IBM, HP, Bain & Co, and Xerox [5], [4], [6] have reported benefits from their efforts, a good number of others appear to be struggling with the implementation of a viable KM strategy and are therefore unable to achieve benefits. This inability may be due to the complexity of the KM effort as well as to the unavailability of proven KM strategies. Recognizing this state of affairs, some authors, for example, Earl [4] have noted that “there is a need for models, frameworks, or methodologies that can help corporate executives both to understand the sorts of knowledge management initiatives or investments that are possible and to identify those that make sense in their context” (p. 216).

To help organizations reap and maximize the benefits from their KM initiatives, management consultants are proposing various KM strategies. However, to date, there has been little or no large-scale empirical research to evaluate and compare the impacts of the proposed strategies on firm’s performance. The purpose of our research is to fill the above gap by hypothesizing and testing the relationships between KM strategies and their impact on organizational performance. In this paper, we specifically focus on developing a model that can be used to test the KM strategies suggested by Michael Earl [4]. Rather than coming up with new labels or acronyms for the same KM related activities and practices in organizations, we decided to focus on the strategies suggested by Earl, referring to them as Earl Taxonomy. The rationale

for focusing on the Earl Taxonomy is that the taxonomy is fairly standard – it embodies and extends beyond most, if not all other suggested KM strategies. We opine on the extant literature to develop our model, and because KM cannot be carried out in isolation, we draw on theories from organizational, economic and strategic management fields as well. The rest of our paper is structured in three sections. In section two, we present and discuss the related background literature. In section three, we present our model. We conclude the paper in section four, with pointers to the direction of our research in future.

## **2. Background**

### ***2.1 Organizational Performance and Knowledge Management***

According to Etzioni [7], “organizations are social units (or human groupings) deliberately constructed and reconstructed to seek specific goals.”(p. 3). In seeking to achieve specific goals, organizations have to get things done [8]. However, with limited resources at their disposal, organizations are wary of how they perform, and what factors or resources contribute most to their performance levels. The performance of an organization is a determinant of its very existence. Systematic or abrupt decline in performance level may lead to organizational death or mortality [9], a situation that occurs when “an organization fails, closes down its operations, and disbands its constituent elements” [10] (p. 170). Most organizations die because they are unable to perform and compete in the market place.

Various economic theories and models have been advanced to account for organizational performance and competitiveness. The industrial and organization (IO) model suggested by [11] and [12] postulates the structure-conduct-perform paradigm – the contention that a firm’s performance and hence its competitiveness depends on the characteristics or conditions of the environment in which it operates. Extensions to the IO model by Porter [13] in the “five forces”

industry model advocate for strengths, weaknesses, opportunities and threats (SWOT) analysis in consideration of industry competitors, suppliers, buyers, substitutes, and potential industry entrants characterized by rivalry among existing firms. Using the SWOT analysis, organizations could avoid “death”, by maintaining a basic competitive advantage, either through low cost or product differentiation. Such advantage could be extended in scope, and directed toward narrow or broad target markets [14].

Recently, the resourced-based view (RBV) model of competitiveness has emerged [15], [16], [17], [18], [19] supported by theories on the growth of the firm [20] and firm resources [21]. The RBV posits competitiveness to be based on firms’ resources, i.e. whatever a firm owns and uses in production. In addition to owning resources, another model – the core competence model [22] posits that firms need to possess core competences -- distinctive, rare, inimitable characteristics a firm requires to be competitive. Opining on the same philosophy as the RBV of the firm, the knowledge-based view (KBV) model of the firm has emerged focusing on knowledge as an organizational resource [23]. Knowledge as a key resource is inimitable [17], provides core competences [22] and dynamic capabilities [24] to the firm and hence enables sustainable competitive advantage in hyper-competitive environments [25], [23].

Propelled by the RBV and KBV movements as well as the recognition that knowledge (rather than labor, land or capital) is the key resource of production [1], [2], many organizations have become engaged in a new breed of multi-faceted activities collectively called knowledge management (KM). By engaging in KM, organizations expect to be competitive while improving and maintaining high performance levels. They hope to better cope with increased downsizing, high turnover rate, constant change, unpredictable business environments, and shorter business cycles. Organizations also hope to boost productivity, improve profit and revenue, retain talent

and expertise, increase customer retention and satisfaction, increase and protect market shares, reduce cost, and develop new product and services [25], [26].

## ***2.2 Knowledge Management Activities and Knowledge Management Strategies***

KM requires the execution of several knowledge-related activities by the organization. Although many authors have proposed many configurations of KM activities, these can be identified in what [27] calls KM building blocks. The KM blocks include setting knowledge goals, identification, acquisition, development, distribution, usage, conservation and assessment of knowledge. KM activities are generally geared toward retaining, analyzing, and organizing employees' expertise, with the primary goal of making knowledge available to the right person at the right time. In executing these activities, organizations acquire capabilities that can enable them compete and perform better. Developing and acquiring capabilities depends on the KM strategies in organizations.

Hill and Jones [28] define strategy as “an action a company takes to attain one or more of its goals” (p.4). Opining on the foregoing definition, we define KM strategy as an action taken by an organization to manage its knowledge. To achieve any of the benefits identified earlier, and understanding that managing knowledge is not the end goal for organizations, our definition can be extended to reflect competitive advantage as a way of ultimately achieving superior performance through the formulation and implementation of appropriate knowledge strategies. Given that KM is multifaceted and because there are no generally agreed upon definitions of knowledge and knowledge management, what we have defined above as knowledge management strategy has been broadly referred to, or identified holistically or in part as follows: knowledge management projects [29]; knowledge management strategy [5], [4], [30], [32], [33];

knowledge management architecture [34], knowledge management schools or orientations [4], knowledge management opportunity portfolio [35], knowledge management activities [36], knowledge management styles [37], knowledge management methods [38], knowledge behaviors [39] and knowledge management initiatives [40].

Knowledge strategy as suggested by [3], [31], [41] is different from KM strategy. The idea of a knowledge strategy is an attempt to relate an organization's competitive strategy and its intellectual resources and capabilities. As Zack points out, organizations "do not have well-developed strategic models that help them to link knowledge-oriented processes, technologies, and organizational forms to business strategy" (p. 126). Accordingly, Zack considers knowledge strategy as act of "balancing knowledge-based resources and capabilities to the knowledge required for providing products or services in ways superior to those of competitor" (p. 131). We believe that the existence and implementation of a knowledge strategy is reflected in the "Knowing-Doing Ability" of the organization. It is likely that some organizations are focusing on developing knowledge-based resources and capabilities without adequate regard of how the resources and capabilities fit with what they know and need to know, as well as with what they can do and need to do [41]. From this perspective, we consider knowledge strategy to be at a higher level than KM strategy, and comparable or parallel to business strategy. The idea of fit may then be examine from the necessity of aligning knowledge strategy and business strategy.

It is not possible to present an in depth discussion on the strategies cited above. We would introduce Earl's Taxonomy so that our model can be understood. Earl [4] studied six companies, interviewed 20 chief knowledge officers, participated in workshop discussions and analyzed KM program documentations to propose a fairly wide taxonomy of KM strategies based on seven orientations: systems, cartographic, engineering, commercial, organizational,

spatial and strategic. We believe the above KM strategies contribute differently to organizational performance and their impacts could be investigated by examining various hypotheses based on the model proposed in this paper.

### ***2.3 Previous Research on KM Strategies and Organizational Performance***

To our knowledge, not much empirical research has been done to study the relationship between KM strategies and organizational performance. A recent study was reported by [37] focusing on the characteristics of knowledge (explicit and tacit) and resulting in what the authors termed on “KM styles.” In effect, the study by [37] was an attempt to shed light on three camps of past studies related to the degree of tacit and explicit knowledge development in organizations. The first camp supported by [5] advocates that firms should pursue either explicit or tacit knowledge predominantly in a ratio of 80:20 and vice versa. The second camp championed by [30] and [38] advocates for simultaneous management of both tacit and explicit knowledge without any specification on the degree of each. The third camp supported by [35] calls for a balance between the two, i.e. 50:50.

Juxtaposing the degrees of managing explicit and explicit knowledge as low and high in a two by two matrix, [37] obtained four KM styles – passive, system-oriented, human-oriented and dynamic. These authors studied 54 Korean firms from the manufacturing, financial and service industries and concluded that a symbiosis of explicit and tacit KM was the best option for organizations. In particular, they found that the dynamic KM Style (high explicit-oriented and high tacit-oriented KM activities) could lead to higher corporate performance.

Despite positioning itself as one of the first studies to relate KM strategies and organizational performance, the study by [31] has a number of limitations. To begin with, the

study is limited by its treatment of knowledge in a dichotomous manner – tacit and explicit. Although useful for understanding the characteristics of knowledge, dichotomous treatment of knowledge has been criticized by [42] as “not very suitable for evaluating the type of knowledge in real cases in order to support operative management decisions.” (p.414). A more engrained scale is required for operational purposes. Another limitation lies in the inability of the study by [37] to say exactly what impact each of tacit and explicit KM styles have on performance. Bundling results and reporting that the dynamic KM style (combination of tacit and explicit orientations) is the best option is of no practical help to managers when it comes to allocating resources and making operational decisions.

Based on earlier dichotomous-oriented research by [5] from which it was suggested that the impact ratio between the tacit and explicit knowledge activities should be 80:20 and vice versa, the study by [37] sheds no light on the applicability and confirmation or disconfirmation of such ratios. Although everything cannot be examined in a single study, the study by [37] leaves out some important KM strategies such as commercialization, consciousness, connectivity, etc as well as a number of important moderating or critical success factors such as leadership, culture, metrics, etc. Our proposed study will explicitly address the above and other limitations.

### **3. Research Model and Hypotheses**

#### ***3.1 Research Model***

Figure 1 depicts our research model. Besides KM strategies and drawing on our background literature review, we estimate that knowledge strategy and organizational and environmental factors such as leadership role, culture, metrics, firm size, firm age, financial

resources, duration of KM effort, and IT role also impact performance (alongside with the KM strategies). For empirical results on the impact of KM strategies to be of significant practical use to practitioners, it makes sense if these other factors are explicitly considered.



**Figure 1: Research Model**

### 3.2 Hypotheses

The hypotheses for our model are under development. Although these would form the basis for the subsequent part of our study and in which our research methodology, data collection and data analysis would be considered, we present two of them here.

The systems KM strategy attempts to capture and store explicit knowledge in databases, and results in knowledge repositories. It corresponds to what has been referred to as codification strategy [5], [29], [34], managing of explicit knowledge [35] [37]. Codification ensures that individual and group-held specialist knowledge is available in knowledge bases (databases, CD-

ROM, expert systems, etc) for others to access as needed to perform the business of the organization whenever the need arise [4]. Codification is usually done using a “people-to-document” approach. Knowledge is “extracted’ from the person who developed it, made independent of that person, and reused for various purposes [5].

Codification of knowledge means increased availability, for example of electronic and other data entry forms and report proposals. Ready access to such electronic data reduces the complexity of using knowledge [43], [44]. Making information available in databases that are accessible by employees lowers coordination costs through lowering the cost of information search and gathering. Rapid access to information by employees increases the response rate to customer inquiries, thereby lowering cost per transaction [45]. Even though codified knowledge may be easily ex-appropriated [3], we believe that adequate protection will limit or avoid the problem. Given the above benefits of codification, we hypothesize that:

***H1: The organizational performance is positively related to the systems KM strategy***

The cartographic knowledge management strategy corresponds to what has been referred to as maps, yellow pages, and people finders [29], [5], and its execution within an organization ensures that employees can easily find out or know how to link themselves to the knowledge sources of the organization. To do this, they need to know where the knowledge is found. Knowledge may be in various locations within the organization for example, in codified databases, employees’ heads or other informal mechanisms. Creating maps, yellow pages, and people finders helps to disclose where knowledge is available within the organization.

Getting access to the required knowledge offers the opportunity for employees to obtain and apply it for business results as required. Knowledge access also facilitates knowledge transfer within the organization. This means employees in one location can easily solve business

problems. Knowing the location of knowledge required for organizational processes is important for efficiently managing and using it [46] because when there is a business problem to be solved, employees know exactly whom to contact or where to go for assistance without any waste of resources. Therefore, we hypothesize that:

***H2: The organizational performance is positively related to the cartographic KM strategy***

## **5. Conclusion**

It has been suggested that multiple KM strategies in organizations could provide better performance than single strategies [29]. Therefore, unlike the previous empirical studies, we adopt a holistic view of strategies as suggested by Earl [4]. This paper represents the first part of a multi-stage study. When completed, our study will shed more light on which KM strategies or combination of KM strategies are most beneficial, to which organizations, and under what conditions. *It is tempting to attempt to make a (re) classification of the various KM strategies identified in the literature. We purposefully avoid any (re) classification. Our consideration is that a different study for that purpose, through factor analysis and clustering, would be able to answer classification questions if at all Earl's Taxonomy needs improvement. Our focus in the present work is to verify and validate the contributions of the elements of Earl's Taxonomy.*

A major limitation of our work at the present stage is the absence of an empirical test. But understanding that the present work is the first and necessary step toward such a test, this limitation may be overlooked. It is our hope that when our model and proposed hypotheses are tested, the results would be very valuable to practitioners and academicians. More specifically, practitioners would be able to appreciate the effectiveness of various KM strategies, and be able to orientate their resources to those that are more beneficial to them.

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