

## Preface

The role of knowledge as a crucial asset for an enterprise's survival and advancement has been recognized by researchers and managers (e.g., von Krogh, Ichijo & Nonaka, 2000). Moreover, by having knowledge (intellectual resources), an organization can understand how to exploit and develop its traditional resources better than its competitors can, even if some or all of those traditional resources are not unique.

With the growing awareness of the crucial role that knowledge can play in gaining competitive advantage, two inter-related issues with regard to knowledge management (KM) initiatives have challenged executives: first, how to build competitive business strategy around a firm's intellectual resources and capabilities, that is, Knowledge (K) strategy, which is oriented toward understanding what knowledge is strategic and why, and second, how to develop KM strategy that guides and defines the processes and infrastructure (organizational and technological) for managing organizational knowledge.

However, the realization of business value from KM investments requires alignment between business (B) and K/KM strategies. The importance of alignment for effective organizational performance is now well-recognized. Alignment among two or more organizational dimensions, which may be defined as the extent to which these dimensions meet theoretical norms of mutual coherence, has been argued and empirically found to enhance performance.

The main purpose of this book is to bring together, in one book, relevant theoretical frameworks and latest empirical research findings in the area of K and KM strategies formulation and how to align them with an organization's B strategy.

The overall objectives of the book are to enable the reader to:

- Get an in-depth understanding of the role of organizational knowledge in gaining sustainable competitive advantage.
- Understand the different approaches to formulate K and KM strategies.
- Recognize the underlying theories behind B and K/KM strategies alignment.
- Provide executives theoretically-sound approaches for formulating business aligned K/KM strategies.

This book is divided into four sections: Organizational Knowledge Management, Knowledge Management (KM) Strategies, and Business and KM Strategies Alignment, and Selected Readings.

The first section, Organizational Knowledge Management, looks at some emerging views such as knowledge ecologies and second order knowledge management, and knowledge management leaders' top issues.

Drawing on systems thinking and complexity theory, the first chapter conceptualizes organizations as complex adaptive systems within which knowledge ecologies may flourish. The implications of such reconceptualization for organizational practice and changes in managerial orientations are shown to be novel offering significant potential towards a second order knowledge management.

The second chapter presents an empirical study of the impact of introducing knowledge management programs on firm performance. In the proposed model knowledge distinctive competences are considered as the mediating variable, which constitute the foundation of the firm innovation capacity. Data collected from 222 firms from the Spanish biotechnology and telecommunication sectors are used to test the model.

Using a Web-based Delphi method, the third chapter presents the results obtained after reaching a consensus among 100 knowledge leaders on their critical issues. These issues include the perceived knowledge management benefits and obstacles, the knowledge leaders' roles and skills, as well as the technologies they use for implementing knowledge management initiatives.

The main theme of the second section, Knowledge Management (KM) Strategies, is the different approaches to formulate K and/or KM strategies. In this context K/KM strategy can be defined as "the way in which the firm balances its knowledge resources and knowledge processing capabilities with the knowledge required to create its products for the markets in a manner superior to its competitors" (Zack, 1999b, p. x). Since strategy, whether business (B) strategy or knowledge (K) strategy, can be seen as a balancing act between the *external domain* (opportunities/threats) and the *internal domain* (capabilities/arrangements) of the firm (strengths and weaknesses) (Henderson & Venkatraman, 1993; Zack, 1999a), the external and internal domains of K-strategy can be described as follows (Abou-Zeid, 2005).

The *external domain* of K-strategy involves three dimensions: *K-Scope* (what the firm must know), *K-Systemic Competencies* (what are the critical characteristics of the required knowledge), and *K-Governance* (how to obtain the required K-competencies). The first dimension, K-Scope, deals with the specific domains of knowledge that are critical to the firm's survival and advancement strategies. Survival strategies aim at securing current enterprise profitability, while advancement strategies aim for future profitability (von Krogh et al., 2000).

The second dimension of the K-strategy external domain is K systemic competencies. The focus of this dimension is the set of utilization-oriented characteristics of knowledge that could contribute positively to the creation of new business strategy or better support of existing business strategy. This set includes characteristics such as:

- **Accessibility**, the extent to which organizational knowledge is made available to its members regardless of time or location (Buckman, 1998);
- **Transferability**, the extent to which the newly acquired knowledge can be applied in other contexts, for example, organizational and cultural (Grant, 1996);
- **Appropriability**, the extent to which knowledge can be imitated. Things are said to have "strong" appropriability if they are difficult to reproduce by another organization. The converse is "weak" appropriability. A related concept is that of "sticky/slippery"; that is, sticky knowledge is such an integral part of a regime that it cannot be extracted in a meaningful whole (Grant, 1996; Narasimha, 2000);
- **Depth and breadth** (Narasimha, 2000);
- **Compositionality**, the amenability of knowledge to be synthesized from existing knowledge; and
- **Integratability**, the extent to which the newly acquired knowledge can be integrated with existing knowledge.

Finally, K-governance dimension deals with the selection and use of mechanisms for obtaining the required K competencies. The process could generate valuable information about their needs

The *internal domain* of K-strategy involves three dimensions: *Knowledge (K) processes*, *Knowledge (K)-infrastructures*, and *Knowledge (K)-skills*.

Knowledge (K)-processes, the first dimension of the K-strategy internal domain, can be classified into two main categories: *K-manipulating processes* and *K-enabling processes*. The first category, K-manipulating processes, includes all the organizational processes needed to change the state of organizational knowledge such as K-generation, K-mobilization, and K-application (Abou-Zeid, 2003). The second category, K-enabling processes, include organizational processes that support K-manipulating processes such as managing conversation, mobilizing knowledge activists, creating the right context, and globalizing local knowledge (von Krogh et al., 2000).

Organizational knowledge processes are socially interaction-intensive. They involve social interactions and direct communication and contact among individuals and among members of “communities of practice”. Therefore, they require the presence of social capital. Social capital is “the sum of actual and potential resources embedded within, available through, and derived from the network of relationships possessed by a social unit” (Nahapier & Ghoshal, 1998). Recognizing the importance of social capital, Gold, Malhotra, and Segars (2001) have identified three key K-infrastructures, the second dimension of the K-strategy internal domain, that is, technical, structural, and cultural, that enable social capital. The *K-technical infrastructure* includes IT-enabled technologies that support KM activities such as business intelligence, collaboration and distributed learning, K-discovery, K-mapping, opportunity generation, and security. The *K-structural infrastructure* refers to the presence of enabling formal organization structures and the organization’s system of rewards and incentives. Finally, the *K-cultural infrastructure* involves elements such as corporate vision and the organization’s system of values (Gold et al., 2001).

The last dimension of the K-strategy internal domain is K-skills. KM processes are by their very nature multifaceted. They involve many dimensions such as technical, organizational and human. This characteristic of KM processes reflects on the nature of skills required to perform them. For example, Malhotra (1997) defines a senior knowledge executive, such as a chief knowledge officer (CKO) or an organizational knowledge architect, as the person who should have the combined capabilities of a business strategist, technology analyst, and a human resource professional. The ability to facilitate the on-going process of knowledge sharing and knowledge renewal, the ability to develop the human and cultural infrastructure that facilitates information sharing, and the ability to utilize the available technologies for serving the creation, sharing, and documentation of knowledge are some examples of the required skills.

Chapters IV and V deal with one of the dimensions of K-strategy external domain, namely K-governance. Chapter IV introduces external knowledge search strategy as a central element of an organizations overall knowledge management strategy. A conceptual framework for organizations involved in the external knowledge management activity has been developed. The framework identifies 10 search paths organizations may follow into the search space, four of which relate exclusively to external knowledge search.

On the other hand, Chapter V reviews recent literature on knowledge and knowledge transfer (KT) and discusses the two paradigms that inform most of the KT literature, namely, the positivist and social construction paradigms and their implications on strategy formulation. Based on this dual paradigm logic, this chapter proposes a classification system of the core knowledge transfer concepts, models, and contexts that helps address issues of a strategic nature.

Some of K-structural infrastructure related issues are addressed in Chapter VI. In this chapter a system dynamics model is used to explore the dynamic relation between organizational learning, modularity, and strategic flexibility. Based on this model, three core constituent elements of a learning-supporting knowledge management strategy, namely, boundary spanners and boundary objects, collaboration-supporting systems, and participative scenario planning.

With regard to K-cultural infrastructure related issues, Chapter VII presents a socialization-based view to organization's knowledge strategy. According to this view, socialization diffuses an organization's knowledge strategy through values leadership and practice-led process redesign. Moreover, it has been argued that socialization results in durable, accessible processes, uniquely configured to business strategy. A socialization approach integrates practice-level internal knowledge networks to support business processes and strategy, leveraging and exchanging knowledge more effectively than authoritative ("top-down") institutionalization.

As technology life cycles are decreasing and the amount of information available is already vast, identifying upcoming innovations and trends as early as possible becomes necessary to decrease uncertainty, implement technology leadership, and create competitive advantage. To this end Chapter VIII investigates to what extent knowledge management technologies support and improve strategic innovation management to face the aforementioned problems successfully. A characterization scheme is developed to serve as a framework for the subsequent evaluation of knowledge management technologies in relation to strategic innovation management.

The third section, Business and KM Strategies Alignment, introduces new approaches for achieving such alignment. In fact several authors clearly indicate the importance of mutually aligning business strategy and KM efforts and how this alignment helps enhance organizational performance (e.g., Earl, 2001; Ribbens, 1997). For example, Maier and Remus (2001, 2002, 2003) propose a process-oriented approach that considers market-oriented factors in a KM strategy. In this approach KM strategies can be described according to the process focus and type of business processes supported (Maier & Remus, 2001). The process focus can extend from a single business process to an organization-wide perspective, including all relevant business processes (core and service). The type of process is related to the identification of knowledge-intensive business processes. In addition, Sabherwal and Sabherwal (2003) empirically found that the cumulative abnormal stock market return (in the 5-day event window) due to a KM announcement is positively associated with the alignment between the firm's business strategy and the attributes of the KM initiative announced. They use four attributes to characterize KM initiatives: KM level, KM process, KM means, and knowledge source. KM level concerns the hierarchical grouping of individuals upon which the KM effort described in the announcement is focused. The KM processes (or K-manipulating processes) involve the sharing, utilization, or creation of knowledge while KM means involve organizational structural arrangements and technologies that are used to enable KM processes (Earl, 2001; Hansen, Nohria, & Tierney, 1999). Finally, knowledge source reflects where the knowledge originates from.

The concept of alignment in the context of knowledge management is discussed in Chapter IX which presents a three-dimensional generic alignment reference framework. The first dimension pertains to business-related strategies while the second one pertains to information-related strategies. The third dimension pertains to knowledge-related strategies. The framework encompasses key issue relating to alignment in KM and presents a unified approach to knowledge strategic alignment.

Chapter X proposes a three-layered service infrastructure that composes services from heterogeneous applications into specific knowledge management (KM) services. It argues that the alignment of KM strategy with business strategy can be achieved by introducing a service infrastructure that uses the concept of KM service in order to connect the customer-oriented materialization of strategic decisions on a conceptual level with their technical counterpart on the information communication technology (ICT) level.

Chapter XI proposes a theoretical basis for a knowledge strategy called artificial *Ba* and discusses how to develop a concrete, artificial *Ba* that supports the alignment of knowledge and business strategies. The proposed system is a complete "artifact", a supportive environment in which knowledge accumu-

lates and is shared, a system that is built to activate existing knowledge and to support the creation of valuable new knowledge in an organization.

The activity domain theory-based view introduced in Chapter XII provides a new approach for guiding the alignment of business and knowledge strategies. In this view alignment is focused around the activity domain, which can be comprehended as a human work practice where socially organized actors process a work object into a required outcome

The 12 chapters and Selected Readings provide an overview of the most recent research in the area of K and KM strategies formulation and how to align them with an organization's B strategy. In addition, each chapter provides insight into possible future research directions.

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