The Co-evolution of Knowledge and Competence Management

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Abstract: This paper reviews and identifies the distinct perspectives on knowledge management, as well as the key conceptual views on organizational competence, focusing on conceptual evolution over time. It introduces the perceivable co-evolution of knowledge and competence management in recent research and practice, and shows the movement towards an integrated and systemic view in which the overall challenge for both is the management of the whole system towards a self-renewable organization. The strategic implications of this review and of the comparative analysis are discussed.

Keywords: knowledge, competence, knowledge and competence management, strategic implication, conceptual evolution

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Introduction

Interest in both knowledge and competence has been increasingly evident in recent research literature and in actual organizational practice. Knowledge management has become a major management trend in that it is considered both a way of reconceptualizing the management of organizations and a major "programme" promoted by management consultants [1]. Similarly, organizational competence has assumed importance as a concept and as a key focus in today's management thinking [2]. The inseparable and mutual supporting relation between knowledge and competence, and the significant implications for strategic management, have also been discussed by a number of authors [3-7].

Despite the increasing significance of knowledge and competence management, there is a lack of conceptual clarification of what they actually mean, and of how they may differ from and relate to each other. This paper aims to clarify and elaborate on these conceptual issues by focusing on a comparative analysis of the development of the knowledge and competence perspectives.

We begin by identifying and critically reviewing the distinct perspectives on knowledge management and the key conceptual views on organizational competence. The differences, overlaps and synergies between knowledge and competence management are then explored. We introduce the perceivable co-evolution of knowledge management and competence management, and demonstrate the movement towards an integrated and systemic view in which the overall challenge for both is the management

of the whole system towards a self-generative and self-renewable organization. The paper ends with a discussion of the strategic implications of this comparative analysis.

Different Perspectives on Knowledge Management

Disciplinary Perspectives

Knowledge management (KM) is an extremely broad concept, rooted in various disciplines and areas of practice with different focuses. During its short history, it has mainly been approached from the following four different perspectives (see also [8]): 1) the philosophical and psychological perspective (e.g., epistemological exploration into knowledge, the study of knowledge types and their interactions, cognitive processes, and will and motivation in knowledge work), which addresses key questions such as what knowledge is, where it comes from, and what the mechanism for processing it is; 2) the organizational and sociological perspective (e.g., organizational structures, networks and communities, organizational learning, the importance of social facts or circumstances), and here it is a question of how we can create and master knowledge together; 3) the economic and business perspective (e.g., gaining competitive advantage by creating knowledge and innovation, the measurement of knowledge and skills, the concept of a balanced scorecard, and KM as a focus strategy), and here the key question concerns how we can extract value from knowledge; and 4) the technological perspective (efficient and effective tools for storing, delivering and mining knowledge) (see Figure 1). All these perspectives define and analyze KM differently, which is also evident in what follows. The various views are presented with particular emphasis on conceptual evolution.

INSERT **FIGURE 1** HERE

Three Generations of KM

The evolution of the KM concept has been identified and analyzed by several authors. Snowden [9] argues that we are entering a third age in the management of knowledge. The first age, prior to 1995, focused on the appropriate structuring and flow of information to decision makers, as well as on the computerization of major business applications, which lead to a technology-enabled revolution dominated by the perceived efficiencies of process reengineering (BPR). The second age started circa 1995, focusing on the movement of knowledge between tacit and explicit states through the four processes of socialization, externalization, combination and internalization known as the SECI model, proposed by Nonaka and Takeuchi [10]. The third generation goes beyond managing knowledge as a thing to also managing it as a flow. The focus is more on context and narrative than on content, which challenges the orthodoxy of scientific management. Complex adaptive systems theory is used to create a sense-making model that utilizes the self-organizing capabilities of informal communities, and identifies a natural-flow model of knowledge creation, disruption and utilization.

According to Ahonen et al. [11], the first KM theories took the knowledge-carrying individual as the unit of analysis and defined knowledge and competence in terms of discrete skills that could be codified and measured. First-generation practices included standard implementations of KM, such as various techniques of knowledge and competence mapping and the creation of large company-wide databases or knowledge

repositories. General practices also included attempts to codify and measure the overall knowledge assets of a company, to be included in a "balanced scorecard" or other such framework accounting for the "intellectual capital" of the firm [12-14].

Ahonen et al. [11] maintain that the second KM generation focused more on networking, communication and collective practices rather than the things people apparently know and the information they possess. The key idea behind the second generation theories is that knowledge is embedded in and becomes constructed in collective practices. This has been related to the development of several practice-based ideas and theorizing, such as *communities of practice* (CoPs) [15], *communities of knowing* [16], *informal networks of expertise and user innovation* [17-18], *communication-intensive organizations* [19], and the concept of *ba* [20]. The focus here is on social learning, flexibility and the ability to develop and be prepared for future challenges. The essential challenge for the second and third generations of KM is to understand the expansive development of activities and the creation of new knowledge and competences. There has been a continuous shift in developing knowledge and competence, from acquiring the skills and assets needed at present to preparing for meeting the challenges of the near future and developing the capacity to create new knowledge and innovations.

According to von Krogh [21], the first wave of KM focused on initiatives in terms of locating and capturing knowledge. The successful creation of business systems to facilitate the acquisition of knowledge about competitors, new scientific trends and developments serves as an example of this stage of KM. The second stage focused more on sharing and transferring the knowledge that had been captured locally in the

organization. Companies with their best-practice sharing and best-practice transfers are good examples here. The third stage focuses more on generating new knowledge.

Tuomi [22] argues that the first generation of KM focused on information sharing, information repositories, and intellectual capital accounting. The key task of management concerned information storage and access. The second generation brought in the concepts of tacit knowledge, social learning, situated and embedded knowledge, and communities of practice, while the third generation is dealing with the strategic allocation of chaos, risk and uncertainty, combined with the predictable and efficient execution of production.

The basic views reviewed above combine to form a logically unified picture of the transition that has happened and is happening within KM at the moment. They indicate a common understanding and the emerging features of third-generation KM, in which the self-organization of knowledge and the creation of new knowledge and competences are critical. The three KM generations and the basic assumptions put forward by the same researchers are shown in Table 1.

INSERT **TABLE 1** HERE

Similar trends in KM transition as those summarized in Table 1 are to be found elsewhere. For instance, Kakabadse et al. [23] reviewed the literature and concluded: "The knowledge debate is emerging from an individual-knowledge focus in the 1970s and 1980s to a group-knowledge focus in the 1990s and 2000s" (p.87). Koenig [24]

identified a KM change from IT-driven knowledge sharing to social learning and knowledge creation. McElroy considered the combined focus on knowledge sharing, integration and creation as the defining characteristic of the New Knowledge Management [25]. Earlier, Blackler [19] revealed a shift in organization and knowledge types away from the heavy emphasis on training and qualifications (emphasis on embedded, embodied and embrained knowledge and skills) towards entrepreneurial problem solving and power generation from creative achievements, and further to encultured knowledge and collective understanding. Encultured knowledge refers to the process of achieving shared understandings. Cultural meaning systems are intimately related to processes of socialization and acculturation. Active communication, creative dialogue and sense-making processes thus play an important role in this emerging approach.

Summary

The three theories of or approaches to the three KM generations identified in the literature seem to differ significantly from each other in the following respects. First, the major aspect each approach addresses is different, which relates to issues such as how we understand its primary function and what its essence is. Second, the key tool or method constructed and applied in each approach is different, which touches upon the question of how to manage knowledge. Third, the understanding concerning the prime knowledge carriers or people and artefacts involved vary, which has much to do with different understandings of fundamental KM questions such as where knowledge is located or distributed. Fourth, interpretations of the nature of knowledge are different in each approach, which touches upon questions such as what constitutes knowledge, what

is the meaning of knowledge, and whether or not knowledge is context-free. Fifth, the temporal considerations vary in terms of the types of knowledge and skills needed at present or in the future, for instance.

Since the approaches of the different generations have different focuses in all essential aspects of KM, as summarized above, the dominant disciplinary perspectives and the related concepts (see Figure 1 at the beginning of this paper) that have been or can be applied must be different. For instance, since information technology plays a key role in the early stage, the technological disciplinary perspective naturally dominates the research and practice. Given the complex and changing nature of knowledge and KM, the multi-disciplinary perspectives adopted in the third generation of knowledge creation and innovation should be mutually constitutive. In other words, they should incorporate different disciplinary approaches in economics and business, technology, sociology and organization, philosophy and psychology, and much more beyond. The different disciplinary perspectives in connection with KM generation theories are summarized in Table 2.

INSERT **TABLE 2** HERE

Conceptual Views of Organizational Competence

Competence Development at Different Levels

From the previous literature we have identified the following conceptual views of competence and their related management perspectives that seem to form a major stream of competence management (CM). They include individual or employee

competence [26-30], core competence [31], capabilities-based competition [32], competence-based strategic management [33-34], dynamic capabilities [35], and absorptive capacity [36-37]. Each view touches upon a common issue that is critical to CM such as what constitutes organizational competence, and also offers different perspectives. It is clear from the literature that the prime competence carrier in each approach is not the same, and that there is a shift from the focus on the individual knowledge and competence carrier to more collective learning entities.

Individual competence Individual or employee competence has much to do with CM in most companies. It focuses entirely on the personal and cognitive traits of so-called competent managers or employees in relation to their job performance [26-30]. Common CM practices discussed in the literature include: 1) making individual competence profiles visible via the company's intranet or data systems, so that people's talents and expertise can easily be traced when needed; 2) identifying the gaps between current and required competences through development meetings and discussion between managers and subordinates, and setting up training and development programmes for building up employee competences.

Corporation-wide strategic competence Since Prahalad and Hamel [31] introduced the concept of *core competence* [38], CM has taken a new turn in which the organization rather than the individual is in focus. They define core competence as "… the collective learning in the organization, especially how to coordinate diverse production skills and integrate multiple streams of technologies" [31, p.82]. It is clear from this that core competence is considered a combination of *production skills and technologies.* As we see it, its significant contributions are: first, it turns the focus of competence analysis

and strategic planning from the individual to the entire organization, opening up a new perspective on CM; secondly, it forms a kind of resource-based view [39], according to which competence is the key source of growth in the firm.

As with core competence, several other influential concepts have added some new features in the development of corporate-wide strategic competence. *Capabilities-based competition*, represented by Stalk et al. [32], takes a broader view of the skill base and focuses in its definition on *business processes* rather than products and markets, thus encompassing the entire value chain.

Competence-based strategic management offers a new "theoretical lens" through which to view *dynamic*, *systemic*, *cognitive* and *holistic* concepts of competence, organizations, and their competence-based interactions [33-34]. According to this approach, continuous learning about how to build and leverage new competences more effectively is a central activity of competence-based strategic management. Designing organizations as largely *self-managing systems* for creating and leveraging competences may therefore represent a new dominant logic for strategic management in complex dynamic environments [33, 40].

Dynamic capabilities refer to "the firm's ability to integrate, build and reconfigure internal and external competencies in order to address rapidly changing environments" [35, p.516], suggesting that intangible assets, including the knowledge and skills of the workforce, can be reconfigured into routines to create responsive capabilities [41]. In terms of dynamic capabilities, competence represents a bundle of resources or firm-specific assets that are "assembled in integrated clusters spanning individuals and

groups" [35, p.516], so that they enable distinctive activities (organizational routines and processes such as quality, miniaturization and systems integration) to be carried out. In this sense, competence is defined as the firm's ability to integrate and manage its available resources or firm-specific assets. This is reminiscent of a number of other concepts, including *organizational capability as knowledge integration* [3], *combinative capabilities* [42], and *architectural competence* [43].

Absorptive capacity is the ability of a firm to recognize the value of new, external information, assimilate it, and apply it for commercial purposes [36]. In the view of Cohen and Levinthal, this ability is critical to the firm's innovative capabilities, and is largely a function of its level of prior related knowledge. An organization's absorptive capacity does not depend simply on its direct interface with the external environment. It also depends on transfers of knowledge across and within subunits that may be quite removed from the original point of entry.

Zahra and George [37] view absorptive capacity as a dynamic capability that influences the creation of organizational competences. They suggest that absorptive capacity exists as the two subsets of *potential* and *realized* absorptive capacities. Potential capacity comprises knowledge acquisition and assimilation capabilities, and realized capacity centres on knowledge transformation and exploitation. Potential absorptive capacity makes the firm receptive to acquiring and assimilating external knowledge, while realized absorptive capacity reflects its capacity to leverage the knowledge that has been absorbed. Potential and realized absorptive capacities have separate but complementary roles. Both coexist at all times and fulfil a necessary but insufficient condition for improving performance.

Team or project collaborative competence To date, two lines of competence research and practice seem to be emerging. The first is concerned with team or project collaborative competence. The existence of such competence results from a common understanding that the sum is bigger than the accumulating parts - a competent team is invariably made up of incompetent individuals, to varying degrees. The focal concern is on a group's ability to work together towards a common goal. This includes 1) its ability to solve problems together, 2) interpersonal competence in terms of working with different individuals and fostering a group atmosphere that enables information and responsibilities to be shared, and 3) knowledge, working models or a repertoire of procedures shared by a team or a project in their work context [44]. A project-based working model is common in knowledge-intensive organizations [45], and virtual teaming is becoming a new challenge in organizational communication and collaboration [46].

Inter-organizational or network competence The other line of CM is related to the so-called network competence described by Ritter et al. [47], or partnering competence in Toiviainen's terms [48]. Other related concepts include relationship competence [49], alliance capability [50-51], and customer competence [52]. This line of research places particular stress on the role of inter-organizational relations and interaction in the development of the firm's competence.

To sum up, in terms of both research and practice, CM started at the individual level, and moved gradually to the development of competence at the organizational level through the first efforts undertaken according to the core-competence approach. The

dominant forms of current competence management comprise either individual competence development or corporate-wide strategic-competence management (e.g., core competence). A form that focuses on teams or networks is emerging and is attracting an increasing amount of attention. At the moment, CM in organizations that integrate different-level competences is rare, a shortcoming we consider critical in today's changing and complex business world.

An Emerging Interpretative Approach

In understanding what constitutes competence at work, Sandberg [53-54] has identified a major shift from the prevalent rationalistic approaches to an emerging interpretative approach, that is, "a shift from attributes to workers' conceptions of their work" [54, p.13]. The rationalistic approaches regard human competence at work as a specific set of attributes such as the knowledge and skills used in performing particular work, while the interpretative approach sees it as the meaning work takes on for workers in the experience of it.

More specifically, the results of Sandberg's study [54] in the Department of Engine Optimization at the Volvo Car Corporation demonstrates that a particular way of perceiving work delimits certain attributes as essential and organizes them into a distinctive structure of competence at work. Sandberg argues that conceptions, and not attributes, should be the point of departure both for efforts to identify and describe competence and for efforts to develop competence in various jobs and professions. His study therefore suggests change in conceptions of work as a more basic form of

competence development. This differs from the rationalistic approaches, in which competence development is regarded as attribute acquisition.

An Integrated Approach to the Worker and to Work

Worker-oriented core competences in HR practices include those related to job design, staffing issues, training and development, and rewards systems [55]. In contrast, the concept of work-oriented competences concerns the aggregation of single competences across individuals: it makes sense to speak of types of competences that an organization needs for its operations, such as those that are task- or firm-specific [56].

Sandberg [54] identifies and critically reviews three main rationalistic approaches to competence: the worker-oriented, the work-oriented, and the multimethod-oriented. Within the worker-oriented approach, competence is primarily seen in terms of attributes possessed by workers, typically represented as knowledge, skills and abilities (KSAs), and the personal traits required for effective work performance (e.g., motive, skills, or aspects of one's self-image or social role). This approach has been criticized for producing descriptions of competence that are too general and abstract. For instance, different managerial jobs may require different competences.

The work-oriented approach also regards competence as a specific set of attributes. The difference is that its advocates take the work as the point of departure. More specifically, they first identify the activities that are essential for accomplishing specific work tasks, and then transform them into personal attributes. In so doing, they are able to generate more concrete and detailed descriptions of what constitutes competence, and

thus largely overcome the problem of generating descriptions that are too general. One basic criticism is that a list of work activities does not sufficiently indicate the attributes required to accomplish them efficiently.

In an attempt to avoid the criticism raised against the worker- and work-oriented approaches, the multimethod-oriented approach, which draws on both, tended to be applied more often. For instance, Veres et al [57] adopted such an approach to identifying competence in the work of police lieutenants. Their description consists of 46 worker attributes expressed in the form of KSAs that correspond to 23 policy activities. The work activities and the attributes are then quantified in percentage terms relating to police work.

Towards a Structural Approach

There seems to be a transition from the functional towards the structural approach in competence management. Drejer [58] argues that the literature on core competences and competence-based strategy is limited to a functional view that only concerns questions such as what the effects of a competence are (core competences defined in terms of their functional characteristics, for instance, offer superior value to the customers of the firm). The author was looking for a structural approach that focused on and dealt with the questions of what the elements of a competence were, and what their relations were (for example, he defines a competence as consisting of four elements and their relations – technology, people, organizational structure, and organizational culture). In a way, this tendency from the functional to a more structural approach reflects the advance of knowledge in the area or discipline in question.

Summary

From the above review and analysis, we can sum up the major approaches to competence development in terms of conceptual evolution. Starting from the resource-based view, competence is understood as the firm's most valuable resource for successful business. The key issue here is *to obtain* the resources or competences that are needed. This approach or understanding could be termed *competence as resources*, and some good examples are individual or employee competence and related practices, as well as the conventional concept of core competence.

The second approach is the add-on of the concept of "dynamic capabilities". The key issue turns to "*to apply*" rather than "to obtain" the resources / competences in organizational routines and practices. It is assumed that only in this way can the firm gain sustainable competitive advantage, particularly in unpredictable and turbulent business environments. This could be called *competence as integration capabilities*, and differs from the first approach in its emphasis on "what you know and are capable of" rather than "what you have".

The trend is to move towards the third approach, in which competence is seen not as pre-existing resources but as being created and constructed through the firm's practices and activities. Thus, the key issue is *to produce* resources or new competences. This approach could be termed *competence as innovative learning processes*. In this case, knowledge about competence itself and the acquisition process, as well as knowing "how to produce resources and capabilities", constitute the potential for facilitating

organizational and strategic change. This ability and knowledge could be called meta-competence [59, 56], which is particularly important in today's turbulent and uncertain business world [56]. Table 3 summarizes the reviewed approaches in terms of related perspectives and concepts, basic assumptions, theoretical focus, and several dimensions of CM transition.

INSERT **TABLE 3** HERE

The Co-evolution of Knowledge and Competence Management

A commonality of knowledge and competence management that we found interesting is that they share the same evolutionary trajectory: it seems that both have gone through a common process shifting from an interest and focus on *documentation and identification* to *leverage and integration*, and finally the *generation* of knowledge and competence. In this process of development, both knowledge and competence management have shown some common features in all the critical aspects we have identified in this paper, including the major concern and primary function, the key tool or method employed, the prime knowledge and competence carrier, the nature of knowledge and competence interpreted by each approach, and the temporal considerations. The common evolutionary trajectory follows the path from the static to the more dynamic: from a focus on the present to more future-oriented needs; from the rationalistic/cognitive to a more interpretative/narrative approach; from the functional to a more structural approach; from the technology-based to a more social-learning-based approach; from the isolated and fragmented to a systems approach; from a single to a multi-disciplinary approach.

However, differences occur in terms of the focus of knowledge and competence in each developmental process or stage: 1) in the stage of knowledge and competence documentation and identification, KM is mostly concerned with what an organization knows about its organization and business, while CM concerns both individual and organizational levels of competences and skills; 2) in the stage of knowledge and competence leverage and integration, KM focuses more on strategy-based workplace learning with strong sociological and organizational perspectives, while CM focuses more on integration and performance efficiency with a strong management perspective; 3) in the third stage of knowledge and competence generation, KM focuses more on architectural building and visionary planning, while CM focuses more on firm- and business-specific dynamics and expertise. The common evolutionary trajectory with its different features in each stage is presented in Table 4.

INSERT **TABLE 4** HERE

Strategic Implications

The new approach we have proposed in this paper could be termed *knowledge and competence management (KCM),* an approach that combines the efforts of both KM and CM to produce the overall capabilities of the whole organization for gaining systemic efficiency in accordance with its pursued strategy. Drawing on the identified evolutionary trajectory, KCM could be seen as a technological and social system for mastering the competitive dynamics and self-renewal of an organization (see Figure 2). Within the KCM system, KM is the presupposition of CM, and CM is a constitutive part of KM. Both deal with organizational "know-how" with its own specified functioning,

being overlapped by interaction. CM is particularly concerned with firm-specific tasks and performance, which have often been neglected in many knowledge-management approaches and practices. As Morgan [29] argues, the concept of competence encourages us to think not only about knowledge itself, but also about the knowledge that is required in competent work performance. On the other hand, KM has a broader and more far-sighted view than CM due to its more general nature and enabling function.

INSERT **FIGURE 2** HERE

Theoretically, by suggesting and applying KCM, our analysis brings in a new conceptual understanding and clarification of the KM and CM approaches and their overlapping and compensative interplay. Furthermore, the integrated KCM model suggests a way of considering both enabling and task-specific functions in an organization, avoiding some systemic bias (e.g., being governed by the structures over the processes and purposes of the firm, and overemphasis on the internal coherence of the system) as pointed out by Blackman and Henderson [60].

The managerial implication is that, in today's turbulent and uncertain business world, the key strategy is to facilitate self-renewal as a basic organizational capability, to explore the dynamics of synchronizing different-level competence development, and to integrate different KM and CM perspectives. As our analysis shows, both KM and CM are moving towards an integrated and systemic view according to which the overall development challenge for both is the management of the whole system towards a self-renewable organization. The challenge for KCM is therefore not so much in separation, but in integration with a view to developing a single system in which knowledge,

competence and self-renewal are mutually constitutive in terms of gaining the firm's sustainable competitive advantage.

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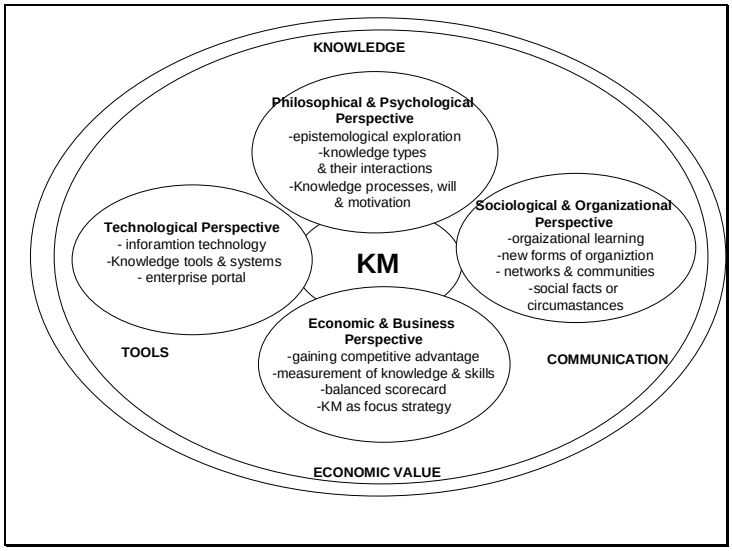

Figure 1: Disciplinary Perspectives on Knowledge Management

Table 1: The three KM Generations and their Respective Perspectives

	1st Generation: KM for information processing	**2nd Generation: KM for knowledge sharing & transfer**	**3rd Generation: KM for knowledge creation & innovation**
Snowden [9]	information provision for decision support and in support of BPR initiatives	tacit-explicit knowledge conversion (Nonaka's SECI model)	contextual and narrative knowledge-based sense-making model; self-organizing capability
Ahonen et al [11]	knowledge as discrete, measurable and codifiable skills, skills needed at present	knowledge embedded and constructed in collective practices, preparing for the challenges of the near future	knowledge embedded and constructed in collective practices, the capacity to create new knowledge and innovations
von Krogh [21]	locating and capturing knowledge	sharing and transferring knowledge	generating new knowledge
Tuomi [22]	information systems, IC accounting	social learning, communities of practice	mastering chaos, risk, uncertainty with efficient production

Table 2: KM Disciplinary Perspectives in terms of the Three Generations

	1st Generation: KM for information processing	**2nd Generation: KM for knowledge sharing and transfer**	**3rd Generation: KM for knowledge creation & innovation**
dominant disciplinary perspectives (based on Prusak [8])	technological perspective	sociological & organizational perspective	multi-disciplinary perspectives including the philosophical & psychological, the economic & the business, and beyond
main concern of KM [21, 24]	identification of knowledge (locating and capturing knowledge and skills)	exploitation of knowledge (sharing and transferring)	exploration of knowledge (creating new knowledge)
key KM tool [9, 22]	information technology	social interaction and communication	self-renewing organization
prime knowledge carrier [11, 19, 23]	individual; individual-knowledge focus	collective/community; group-knowledge focus	system(s)
nature of knowledge [9, 11, 19]	rational/cognitive; explicit; context-free; embedded, embodied, & embrained	communicative; tacit	interpretative/narrative; situated/intuitive; context-bound; encultured knowledge and collective understanding
temporal consideration [11]	skills needed at present	preparing for the challenges of the near future	capacity to create new knowledge needed in the distant future

Table 3: Competence Approaches in Terms of Related Perspectives, Basic Assumptions, Focus, and Dimensions of CM Transition

	Competence as resources	**Competence as integration capabilities**	**Competence as innovative learning processes**
perspectives & concepts	resource-based view; individual competence, core competence; capabilities-based competition	dynamic capabilities; capability as knowledge integration; combinative capabilities; architectural competence; absorptive capacity	self-managing system emphasized in competence-based strategic management; meta-competence
basic assumption	competence is equal to resources or to configurations of resources affecting activities	competence is the ability to manage resources/competences	competence is not yet there, but created and constructed through daily practices and activities
focus	"capability of obtaining resources"	"capability of applying and leveraging resources/competences"	"capability of producing resources/competences"
Dimensions of CM transition	rationalistic approach worker- or work-oriented approach more functional approach	→	interpretative approach & sense-making mode integrated approach to both worker and work more structural approach

Table 4: A Comparison of Knowledge- and Competence-management Evolution

	Knowledge Management	**Competence Management**
Common Evolutionary Trajectory	1. KM for information processing -> 2. KM for knowledge sharing and transfer -> 3. KM for knowledge creation and innovation	1. Competence as resources -> 2. Competence as integration capabilities -> 3. Competence as innovative learning processes
In knowledge & competence documentation and identification	mostly concerns what an organization knows regarding its organization and business - knowledge database/repositories - balanced scorecard - IC accounting	concerns both individual- and organizational-level competence and skills - competence matrix (individual knowledge & skills: both social & technical) - list of core competences (category-like list of production skills & technology the firm has)
In knowledge & competence leverage and integration	focuses more on strategy-based workplace learning with strong sociological and organizational perspectives - socialization in tacit-explicit knowledge conversion - social learning in CoPs - communication-intensive organization	focuses more on integration and performance efficiency with a strong management perspective - dynamic capabilities - absorptive capacity
In knowledge & competence generation and innovation	focuses on systems efficiency and dynamic visioning - mastering chaos, risk & uncertainty - benefits of self-organization	focuses on firm- and business-specific dynamics and expertise - self-managing systems emphasized in competence-based strategic management - meta-competence - interpretative approach & sense-making model

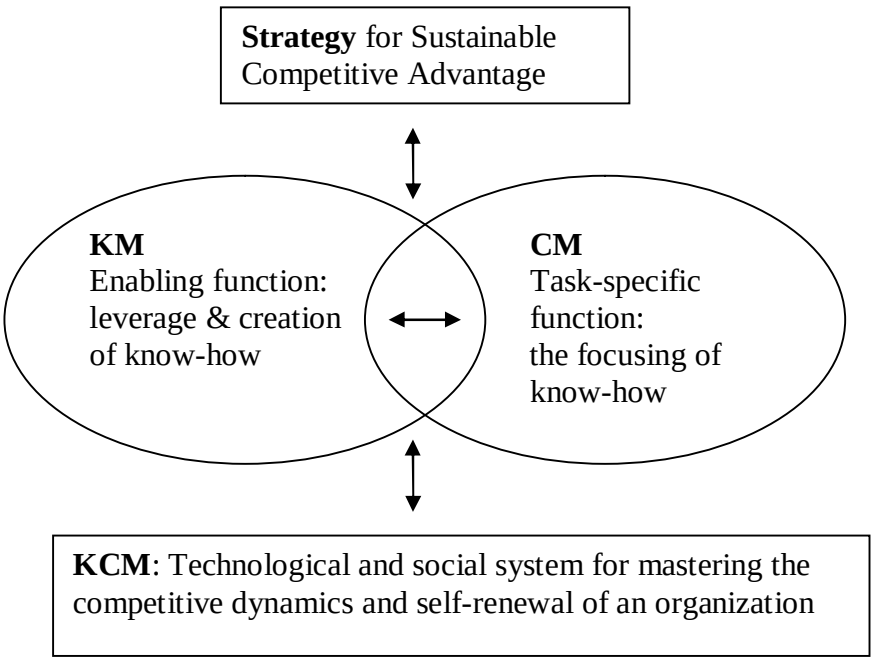

Figure 2: KCM – Mastering the Competitive Dynamics & Self-renewal of an Organization