

■ Research Article

Firm-Specific Knowledge and Competitive Advantage: Evidence and KM Practices

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Firm-specific, idiosyncratic knowledge is increasingly being recognized as a possible source of competitive advantage in today's business world, where more traditional sources seem to become less effective, to the extent of suggesting new approaches to strategy theory and even to the theory of the firm. This is routinely confirmed by the preliminary results from an on-going study of knowledge management (KM) approaches and practices used in Spanish firms. In this study, several senior management respondents unambiguously consider firm-specific knowledge very important for their firms' competitiveness, although they recognize, not surprisingly, that general purpose knowledge is also needed and in a higher proportion. However, when the specific KM practices used are analysed, it turns out that the majority of them do not seem to be particularly well geared to firm-specific knowledge development and usage, and neither for the effectiveness of the associated learning activities and processes. This suggests what could be a fundamental mismatch between the type of knowledge involved and appropriate KM practices. In this paper we present preliminary evidence stemming from the aforementioned study, make an attempt to characterize the kind of mismatches detected, and suggest ideas for further research on the practical and theoretical implications of the results obtained. Copyright © 2008 John Wiley & Sons, Ltd.

INTRODUCTION

In this paper we approach KM from the perspective of how knowledge and learning contribute to develop sustainable competitive advantages (SCA) in firms. We start by pointing out how knowledge may constitute the basis of SCA, introducing the notions of firm-specific and general purpose knowledge, and arguing that SCA appears as a consequence of achieving a right "mix" of these

two types of knowledge in a way consistent with the firm's strategy and competitive positioning.

Thus, we argue that the sustainability of such knowledge-based advantages depends on the type of knowledge involved, and consequently of the learning processes necessary to develop and maintain it. This in turn points out that KM practices designed to foster knowledge-based SCAs should be associated with appropriate learning processes.

However, a preliminary analysis of empirical data derived from a study of KM practices in Spanish firms of different sizes in a variety of industries, directed to CEOs and other senior officials, does not seem to indicate that appropriate

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learning processes are being utilized. This raises the question of why such learning processes are adopted rather than those more consistent with the theory we propose.

The paper is divided into seven sections. Section 2 briefly discusses the idea of knowledge-based competitive advantage and how it may be interpreted from a standpoint of strategic positioning. Section 3 takes on the subject of why different types of knowledge seem to be more or less relevant for strategic positioning. Section 4 analyzes the sustainability of knowledge-based competitive advantages using a well-known sustainability framework. Sections 5 and 6 provide a preliminary analysis of data coming from an on-going survey where Spanish senior managers give their perceptions and intuitions regarding KM and their understanding of the link between KM practices and competitive advantage. Section 7 concludes with a reflection on implications for research and practice with particular emphasis on some of the mismatches between the data that have been obtained and what was expected.

KNOWLEDGE AND COMPETITIVE ADVANTAGE: WHAT MAKES THE DIFFERENCE?

Environmental trends such as globalization, technical evolution, and deregulation are changing the competitive structure of markets in such a way that the effectiveness of traditional sources of firms' competitive advantage is often attenuated. Competitive advantages based on physical, financial, or even technological assets are less and less sustainable since these assets are becoming easier to access through markets that have become increasingly accessible worldwide.

Consequently, firms need to concentrate on the development of distinctive, difficult to imitate capabilities, own "ways of doing things" that go beyond the mere application or exploitation of physical or financial assets progressively commoditized. Such capabilities always, eventually, relate to employees of the firm — who at the end of the day develop and apply their abilities, knowledge and skills, organized and coordinated in ways, which can be also distinctive.

Thus, developing idiosyncratic, "all your own" and context-specific knowledge that in fact gives meaning to the firm's distinctive ways of doing is increasingly important (Bell, 1973; Drucker, 1993). This has given rise to new approaches to strategy theory and even to the theory of the firm (Barney, 1991; Grant, 1996a,b; Spender, 1996; Dierickx and

Cool, 1989; Eisenhardt and Santos, 2002; Huckman and Pisano, 2006). Idiosyncratic knowledge is difficult to imitate because it is not available in open markets; it has to be created inside each firm. This requires time, effort, commitment and often a specific context (organizational, social, etc.), which reinforces its inimitability. For example, the result is often so path-dependent that it is virtually impossible to reproduce in a firm different from that in which it originated. In fact, this is the basic argument behind the so-called Resource-Based View of the Firm (Barney, 1991; Peteraf, 1993; Grant, 1996a,b).

This is why, in general, idiosyncratic knowledge has definite potential to give rise to SCA. As long as it results from a particular accumulation of individual and organizational experience, imitating it is difficult. Because it is both path- and context-dependent, imitating it requires duplicating specific contexts and paths, a complex endeavour by nature and consequently costly (Teece *et al.*, 1997). Knowledge with a high level of idiosyncrasy is valued more in the context in which it was developed (i.e., a specific firm) than in a different context (firm), where its very reason d'être would not fit.

Thus, not all knowledge is the same as far as potential for competitive advantage is concerned. In what follows we further distinguish between two fundamental types of knowledge, which we find useful for our purposes in this paper.

FIRM-SPECIFIC AND GENERAL PURPOSE KNOWLEDGE

To begin with, the competitive environment puts pressure on firms to not only streamline their internal business processes (so as to be as efficient as the most efficient firm, in a well-known journey to the so-called "efficiency frontier"), but also to be able to incorporate relevant knowledge from the environment, in order to be able to offer whatever becomes "standard" in the marketplace to potential clients (e.g., an automobile without airbags or ABS is not competitive today, and neither is a classic mechanical scale, unless it is conceived as an antique). As the so-called Relational View of the Firm (Dyer and Singh, 1998) suggests, knowledge sharing is one of the most important sources of competitive advantage derived from external relationships. In other words, any firm needs access to knowledge allowing it to "do" something that, although also done by competitors, is demanded and valued in the market. This "general-purpose knowledge" is useful not only inside a particular firm but also "externally" in the environment (i.e.,

useful and valuable for a series of firms —the airbag or ABS technologies mentioned above are good examples). One important characteristic of general purpose knowledge is that its market value is approximately equal to its value within a firm; for example, it can be traded in the labor market, and in general it tends to be rather technical and explicit, which makes it relatively easy to acquire, be it through internal training or simply by “buying” it in the market (Becker, 1962).

Relying on external, general purpose knowledge alone (i.e., offering only standard features), however, does not lead to competitive advantage as it does not differentiate any firm, by definition — although it may be a competitive necessity, it does not suffice. Such a strategy needs to be complemented through the use of a different kind of knowledge that is more idiosyncratic, much less visible, which is capable of differentiating the firm’s offering(s) in the market.

This knowledge is firm-specific and is evidenced in the firm’s particular modes of functioning, its particular organizational context, and often acts as a sort of “organizational glue” when the fast integration of general purpose knowledge from outside the firm may threaten the organization’s cohesiveness and sense of unity. For example, a firm smooth operation could be disrupted by the incorporation of new employees, needed because of their expertise in, say, a new technology not well known inside the company. In the presence of a strong culture (part of the idiosyncratic knowledge of the firm), however, such disruption could be minimized and the new, required technological knowledge effectively “inserted” in the firm without threatening its mission and sense of purpose. This makes firm-specific knowledge more valuable inside the organization than in the market, and less subject to imitation. Developing this kind of knowledge is less environment-driven and belongs more to the realm of organizational routines and organizational “idiosyncrasy” (Nelson and Winter, 1982). Thus conceived, firm-specific knowledge can be understood as the organizational context that (i) plays the role of a skeleton where new knowledge pieces are attached so as to “make global sense” to the firm tradition, culture and “way to understand things” (Spender, 1996), and (ii) defines the way in which new knowledge will be actually put to work, hence giving it the “idiosyncratic firm’s touch” that will differentiate its utilization from that of other firms. Firm-specific knowledge, thus, plays a fundamental role in the creation and deployment of new knowledge and is, therefore, a source of dynamic capabilities (Teece *et al.*, 1997; Eisenhardt and Martin, 2000; Helfat *et al.*, 2007).

This distinction between these general purpose and firm-specific knowledge is not new; in fact, the economics literature has analyzed the differences between “general” and “firm-specific” knowledge, from two fundamental perspectives. For example, Becker (1962) adopted a human capital approach to study how to price the training of employees. His basic argument differentiated between specific and general training and concluded that the firm should cover all firm-specific training, while the worker should cover general training, because the involved knowledge has a direct market value. Williamson (1981) takes up this argument from a transaction cost point of view, considering the necessity to protect “skills acquired in a learning-by-doing fashion and imperfectly transferable across employers” (Williamson, 1981, p. 563), by embedding them in a protective governance structure and appropriate contracts.

From a more managerial standpoint, Porter interviewed by Hodgetts (1999) appears to introduce and argue for a similar distinction when he distinguishes between what he calls “operational improvement” and “positioning”:

“Operational improvement involves incorporating practices that would be good for any company . . . Strategy is the pursuit of a unique way of competing [. . .that. . .] allows a company to uniquely tailor the activities in its value chain . . . [Best practice improvement and strategy] must both be present. Best practice improvement is a hard game to win —it’s very hard to sustain an advantage here because rivals are also motivated to do it. The real advantage normally comes in differences in strategic position supported by tailored activities, tradeoffs, and fit”.

In a similar manner, Edvinsson’s and Malone’s (1997) definition of intellectual capital as

“the possession of the knowledge, applied experience, organizational technology, customer relationships and professional skills that provide [an organization] with a competitive edge in the market”

is also close to the concept of firm-specific knowledge. The classic management literature also proposes a similar distinction: Selznick (1957), for example, is very close to the same concept when he states:

“. . .we must create a structure uniquely adapted to the mission and role of the enterprise. This adaptation goes beyond a tailored combination of uniform elements; it is an adaptation in depth, affecting the nature of the parts themselves. . . . The integrity of an enterprise . . . is the unity that

emerges when a particular orientation becomes so firmly a part of group life that it colors and directs a wide variety of attitudes, decisions, and forms of organization ... The building of integrity is part of what we have called "institutional embodiment of purpose" ... The protection of integrity ... is a practical concern of the first importance because ... is ... a defence of the organization's distinctive competence. As institutionalization progresses the enterprise takes on a special character, and this means that it becomes peculiarly competent (or incompetent) to do a particular kind of work".

TYPES OF KNOWLEDGE AND COMPETITIVE ADVANTAGE SUSTAINABILITY

Turning now to the sustainability of competitive advantages based on knowledge Ghemawat (2006) distinguishes among four different kinds of threats to sustainability in general: Imitation, Substitution, Hold-up, and Slack. The former two do not need an explanation, The latter two correspond to the threat posed by industry participants that can appropriate value created by others for example by capitalizing on specialized investments (Williamson 1985), and to the threat of feeling so secure about one's own advantages that the firm "abandons itself" to the point of becoming vulnerable because of "excessive slack" in his organization and operation.

From the knowledge-based perspective, it is possible to reason in terms of what types of knowledge are in principle more useful to avoid these kinds of threats. In the case of imitation it is widely accepted that tacit knowledge is more difficult to transmit than explicit knowledge, which makes it less prone to imitation (Brown and Duguid, 2001). A similar argument can be made about collective or organizational knowledge as compared with individual knowledge (Kogut and Zander, 1992). We can add to this that because of its context- and path-dependability characteristics, firm-specific knowledge provides more of a basis against imitation than general purpose knowledge.

With respect to substitution, the sustainability argument is less clear from a knowledge-based standpoint. More often than not substitution comes from (radical) innovation, be it technological, organizational, or paradigm-shifting in general. It is arguable, then, that too much reliance on firm-specific knowledge can be counter-productive if it reaches the point where the firm becomes so self-centered that it ends up being unable to imagine innovations in its

areas of expertise or even to detect emerging innovations in the environment (Trypsas, 1997). This argument is relatively less important when it involves knowledge that has to do with organizational structure and corporate culture because the effects of innovation in these areas tend to occur at a slower pace and thus give the threatened firm more time to react. In any case, it is clear that developing good learning abilities is fundamental to face substitution threats, more so regarding knowledge that can, for the reasons just outlined, severely block learning, namely firm-specific knowledge in an organizational context too closed in itself —e.g., when the firm's culture is so strong that it becomes "fundamentalist" in the sense of rejecting any innovation whatsoever, just because it threatens the firm's tradition.

The hold-up threat appears in firms whose firm-specific knowledge is really "imposed" by other firms, typically players in the same industry, with which the firm has close relationships that can even take the form of strong agreements, including partnerships. Being aware of "borrowed" firm-specific knowledge in this sense is paramount to avoid this threat. Thus, one should counterweight this kind of a bias (sometimes unavoidable given the characteristics of the industry) with complements of "truly own" firm-specific knowledge of a different kind—for example organizational or culture-based.

Finally, threats stemming from slack can only be mitigated through organizational contexts and cultures tending to maintain tension in the firm and its employees and managers. From the knowledge perspective that interests us here, again this has to do with the development and use of firm-specific collective knowledge of idiosyncratic character.

In summary, there are arguments to say that in order to develop and maintain knowledge-based competitive advantages, these should be preferably rooted on implicit, collective, firm-specific knowledge. There are, to be sure, also certain drawbacks associated with these types of knowledge for the purposes that interest us here, mainly stemming from its "stickiness" (Brown and Duguid, 2001) in the sense of their potential to become roadblocks to innovation, be it through exploration or exploitation (March, 1991), i.e., either blocking innovative uses of existing knowledge, or inhibiting new knowledge development. However, it can also be argued that at least one antidote for this problem can be based on idiosyncratic cultures (firm-specific knowledge after all) that foster learning and paradigm challenging.

The above constitutes the theoretical backdrop in which context we set forth the results of our preliminary empirical investigation described in the following sections.

DO FIRMS APPRECIATE FIRM-SPECIFIC KNOWLEDGE FOR COMPETITIVE ADVANTAGE? SOME EMPIRICAL EVIDENCE

In order to investigate the validity of the theoretical arguments set forth in the preceding section, we performed a preliminary analysis on the initial data coming from a survey on KM that is currently being run on a sample of Spanish senior managers (almost 42% of the respondents were CEOs and another 40% were top functional executives) who work for firms of different industries and sizes. This is actually the third edition of such a survey, which on this occasion included additional emphasis on issues related to firm-specific knowledge, knowledge-based competitive advantages and contains also information about KM practices, objectives and results of the participating firms. The survey was conducted using a questionnaire that has been evolving through its three versions, although its basic design remains unchanged; this facilitates the examination of interesting evolution patterns of KM conception and practices as time goes by. The questionnaire consists of 100 questions of different types (multiple choice, Likert-scale, and open questions) grouped in seven sections.

For the purposes of this paper, since the survey is still on going, we have only data from a limited number of questionnaires—about 80 (in previous versions the survey was done with data coming from about 120, resulting from a response rate considered normal in studies of this kind). Thus, we consider the following results to be preliminary, but still useful to the extent that trends are indicated along with patterns that are indicative of what the final results are probably going to be. The actual sample comes from firms in a variety of industries located all over Spain, with the majority coming from the areas of Catalunya and Madrid. Specially relevant for the type of issues studied is their size distribution, which in terms of sales volume goes from 10 million euro to over 1000 million—roughly 20% of them in each of the following intervals: between 10 and 50 million, between 5 and 100, between 100 and 500, between 500 and 1000, and over 1000 million euro in sales.

There are three types of questions and their associated responses that are of interest for this paper. The first one has to do with whether or not senior executives seem to perceive knowledge in general and firm-specific knowledge in particular as relevant for their firms' competitiveness and the sustainability of competitive advantage. The second type addresses specifically what knowledge they consider more important for competitiveness. The

third, finally, is centered on types of KM practices, which in principle, according to the previous section, one would anticipate to be consistent with the kinds of knowledge considered important.

We analyze the first two types of response in this section and the third one in the next, where we also identify what appear to be "mismatches" in the light of the aforementioned theoretical arguments. Figure 1 shows the results obtained when respondents were questioned about different aspects of the relevance of knowledge for competitiveness on a Likert scale (1–5). We found that senior managers in the sample considered that knowledge is quite important for the firm competitiveness (4.0) and knowledge-based advantages tend to be sustainable (4.1). When asked about the importance of different types of knowledge, we observed that they regard firm-specific knowledge as quite relevant (4.1) and prioritize individual implicit knowledge (4.0) and collective explicit knowledge (4.0) over individual explicit knowledge (3.3) and, to minor extent, collective implicit knowledge (3.8).

We observed that the senior managers questioned are, in general, well aware of the importance of knowledge to achieve competitiveness and of specific knowledge to make competitive advantage sustainable. Moreover, they seem to be able to discriminate among the different types of knowledge.

In order to look at this issue in more depth, we analyzed the answers given by the senior managers in our sample when asked about examples of firm-specific knowledge (Figure 2) and general purpose knowledge (Figure 3) in their firms. We sorted the different examples gathered through the survey into a set of categories that we have previously defined. In each case, the initial assignment of every example to a category was made by one of the authors and it was later discussed with the other two authors until an agreement was reached to ensure a reasonable level of classificatory reliability.

The analysis of the firm-specific knowledge examples confirmed the pre-eminence of the implicit and collective aspects of knowledge. We found that the most populated categories refer to management practices and approaches (23%), technology (supposedly proprietary, 17%) and organizational culture (17%).

Again, it is interesting to contrast this with answers obtained to the question of representative examples of general purpose knowledge. The most important group of examples refer to standard management practices and approaches (30%), followed by technology (supposedly commodity, 19%) and finance (8%). Clearly, the presence of implicit knowledge aspects is much lower in this

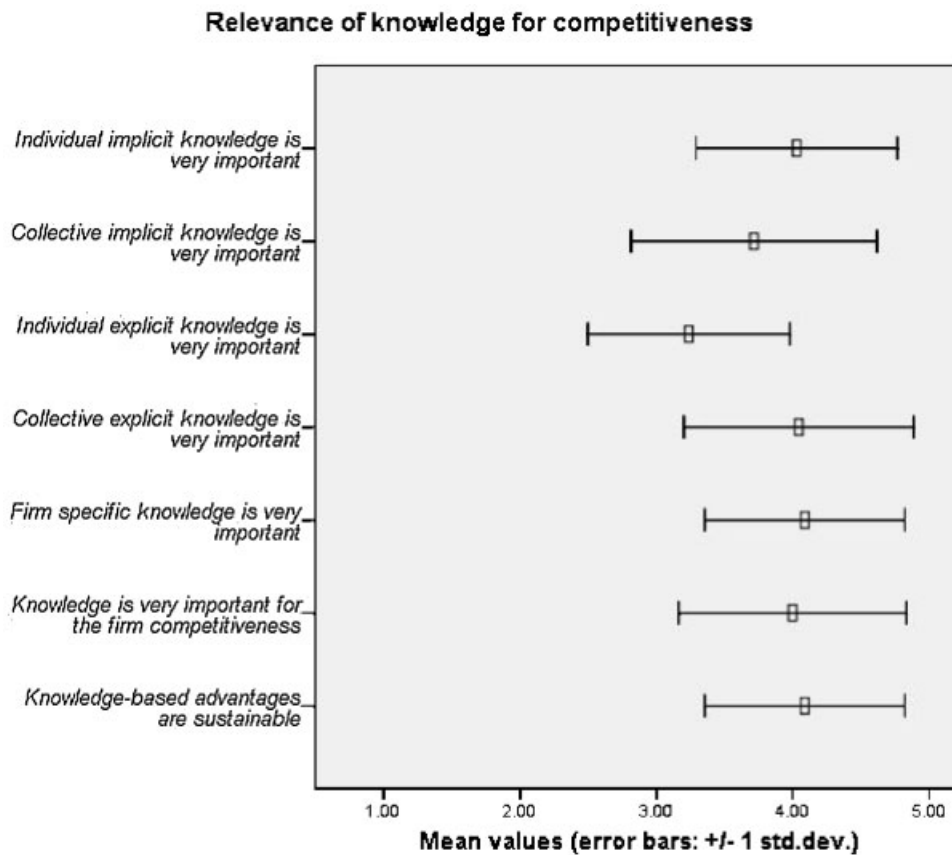


Figure 1 Survey items related to the relevance of knowledge for competitiveness

case. This confirms that firm-specific knowledge is considered by managers to be less structured while general knowledge is thought to show a higher degree of codification, which is necessary in order to be more easily transferred between organizations.

A preliminary analysis of the results above points to some specific feature in the way the managers in the sample view organizational knowledge. First, the respondents seem to discriminate well between different kinds of knowledge, and that they

consider knowledge-based competitive advantages both important and sustainable. Second, with respect to categories of firm-specific knowledge, it is interesting to notice that “management practices and approaches” is the most widespread one, even more than the obvious category centered on technology (patents and the like). For a good reason, rules, regulations and processes are considered good examples of general purpose knowledge. Third, other knowledge characteristics, such as

Examples of specific knowledge



Figure 2 Main categories of examples mentioned in the survey for specific knowledge

Examples of general purpose knowledge

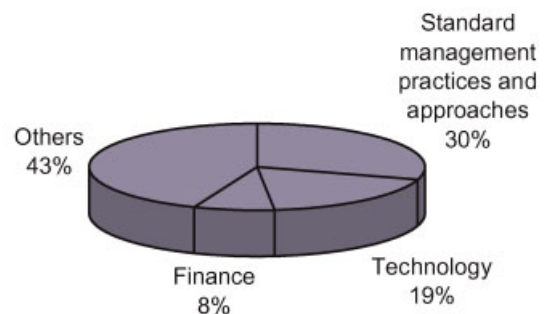


Figure 3 Main categories of examples mentioned in the survey for general purpose knowledge

implicit versus explicit or individual versus collective appear to be related to competitiveness potential in the way discussed in the preceding section: a somewhat clear bias towards implicit and collective knowledge. However, the highly valued assessment related to the relevance of collective explicit knowledge for competitiveness would appear to be anomalous and was unexpected.

In general terms, therefore, the theoretical arguments laid out above seem to hold; this can be considered a confirmatory result of our analysis, which does not falsify the existing theory. It seems that we can claim a bit more unexpected contribution to the advance of knowledge in another area, as described in the next section.

AND... HOW ABOUT ASSOCIATED KM PRACTICES? DO THEY SEEM TO MATCH?

The survey also asks the senior managers about kinds and specifics of KM practices in their firms. A first general open question refers to the intended objectives behind KM practices. Again, following the procedure explained in the previous section, individual responses are sorted into a set of previously defined categories (Figure 4).

Some of the results obtained are a somewhat unexpected and thus demanding of an explanation. In particular, an overview of the results shows that 19% of the KM objectives expressed mention "efficiency" as a key word, 19% refer to "knowledge re-utilization" and 16% consider KM to be an "organizational component".

These results suggest that when it comes to concrete practices senior managers seem to expect that they are less explicitly related to competitiveness than what one would expect taking into account the arguments that we have presented earlier in this paper. In particular, after having seen their assessment of the importance of firm-specific knowledge in this area this response seems to be anomalous. Of course, it can be argued that they consider actual competitive advantages based on efficiency and innovation based on exploitation of existing knowledge, but other data obtained from the same survey which are out of the scope of this paper seem to indicate the contrary, although an in-depth analysis of this issue is pending.

However, when asked about the same issue but requiring the responses to be selected from a few (13) answers, the most valued expected contributions of KM practices in the respondents' firms were the following (again using a Lickert scale from 1 (low influence) to 5 (high influence); see Figure 5):



Figure 4 Main objectives of KM initiatives reported in the survey

product and services quality improvement (4.1), client satisfaction improvement (4.0), better knowledge of the competitive environment (4.0), increased innovation capabilities (3.9), and improved response time to clients (3.9). This result seems to indicate that, if specifically prompted, those managers may appreciate KM contributions in a way more in line with their general appreciation of knowledge-based competitiveness.

On the other hand, when it comes to specific KM initiatives that have been implemented in firms, the resulting most populated answer categories after our sorting procedure are also revealing (see Figure 6): 19% are related to information systems projects, 16% have to do with training and improving capabilities, 13% with document management, and 12% are about setting up an intranet.

As previously reported (Alavi and Leidner, 1999), and thus consistently with other studies, these answers seem to have a recognizable "technology flavor" which is, in principle, not very consistent with the type of knowledge relevant for the issues of interest namely that implicit and collective knowledge would be valued highly as a source of SCA.

On the other hand (Figure 7), when senior managers were asked about the types of problem that their firms tried to solve with KM initiatives, their answers also deviate somewhat from what we would expect. The principal categories resulting from sorting their answers show that 22% related to process improvement, 12% to efficiency improvement, 11% to innovation and 11% to capability improvement. Again, the responses provided by the managers in the sample mostly point to technological or procedural initiatives, which seems to be at odds with the outcomes that the same managers expect from knowledge.

Somewhat in contrast, their answers to more specific questions regarding how important they consider concrete "knowledge development activities" (notice, NOT "KM activities") to be, are also

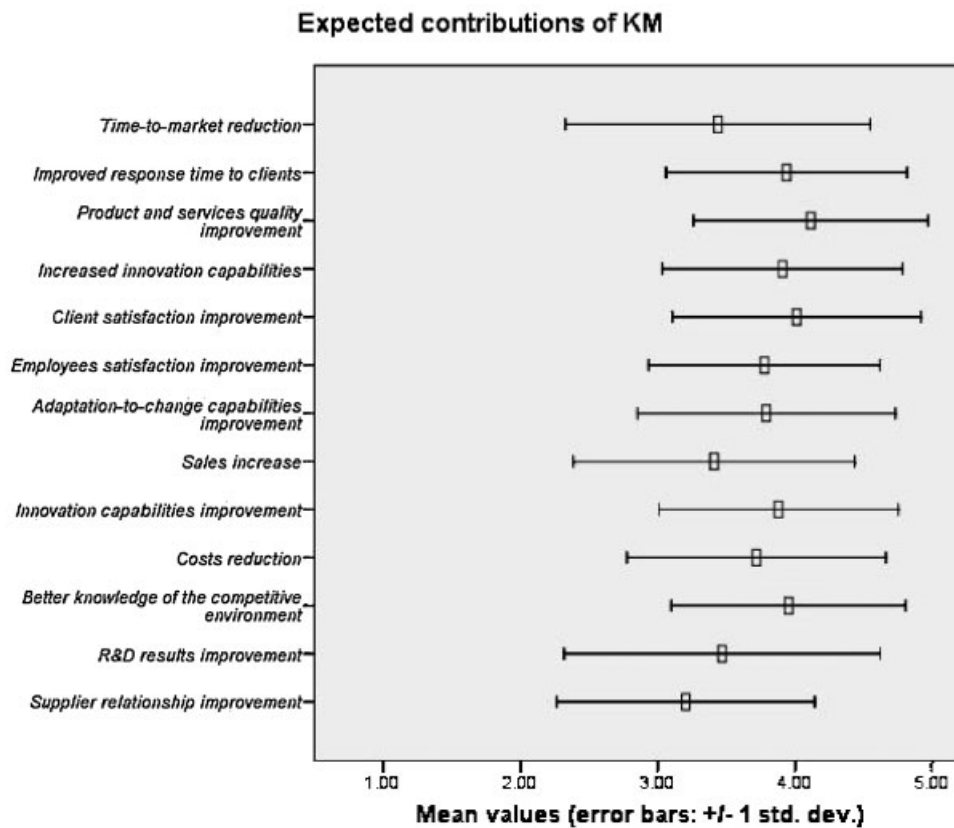


Figure 5 Expected contributions of KM practices

interesting (see Figure 8; the Lickert scale now going from 1 (not important) to 5 (very important)), as some of them are related to firm-specific knowledge, although others are clearly not: “Work with clients or suppliers to solve common problems” (4.2), “Capability lags identified during business planning activities” (4.0), “Internal training courses” (3.7), “Maintenance of procedure manuals” (3.7), and “Hiring of personnel with specific profiles” (3.7).

In summary, as the reader can appreciate, some of these results are not as consistent with theory

as those in the preceding section seem to be. Of course, to the extent that they are preliminary, further analysis of a more complete set of data is needed in order to be more precise and to even try to uncover relationships among variables that could illuminate findings more thoroughly. However, a number of interesting trends can already be identified:

- senior managers seem to appreciate the potential of knowledge-based competitiveness,

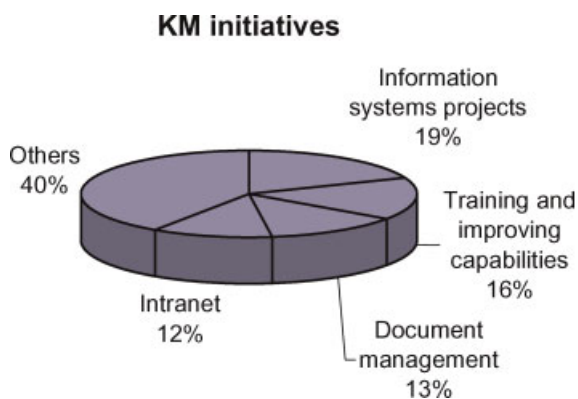


Figure 6 Specific KM initiatives implemented in the firms surveyed

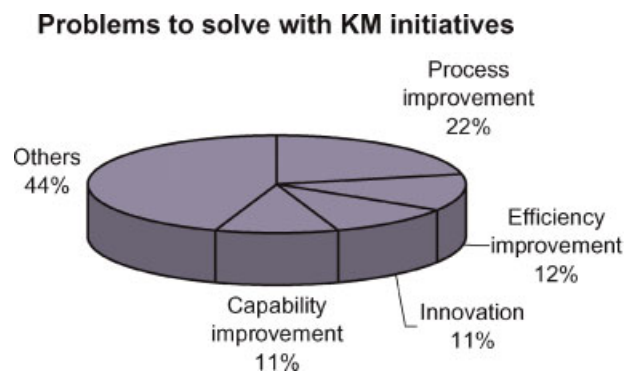


Figure 7 Kinds of problems expected to be solved with KM in the firms surveyed

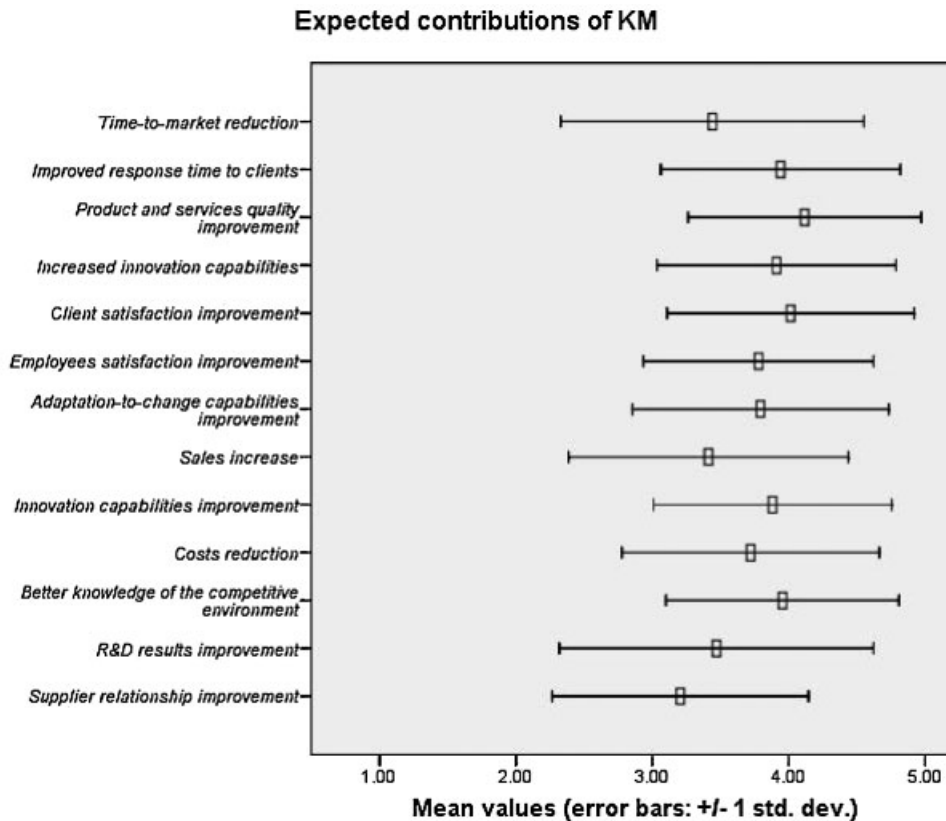


Figure 8 Importance of knowledge development activities in the firms surveyed

- which in addition they consider to generate sustainable advantages,
- although when it comes to specific KM practices they seem to be not very creative,
- apparently still being under the “technology syndrome”,
- even if prompted they appreciate more “in line” initiatives,
- and envision results beyond just efficiency improvements.

These results suggest the issues that we set forth in next section to conclude.

IN CONCLUSION: WHAT IS THERE TO BE LEARNED FOR RESEARCH AND PRACTICE?

Given our preceding discussion and analysis we believe that the following conclusions can be drawn. First, the theoretical foundations regarding types of knowledge relevant for sustainable knowledge-based competitive advantages seem to be well understood by senior managers, including the role of firm-specific knowledge and a sensibility for knowledge embedded in organizational routines and management procedures, which goes beyond

the somewhat popular conception of knowledge circumscribed to more operational aspects like patents and proprietary technology.

Second, there seems to be a mismatch between the understanding and sensibility referred to in the preceding paragraph and the managers’ expectations regarding KM objectives in general and KM practices in particular. On the one hand, unless prompted through specific examples, managers do not seem to anticipate concrete results out of KM initiatives that are consistent with the competitive advantage potential associated to firm-specific knowledge. On the other hand, the kind of KM initiatives that managers talk about and the kind of results that they seem to expect from them are also less consistent with that competitiveness potential—instead, they are much more basic, bread-and-butter initiatives and results.

There are at least two conjectures and also some implications for practice that these general results suggest. One has to do with the link between the concept of knowledge-based competitive advantages and that of KM as an area through which management actions could be channelled in order to materialize the potential for competitive advantage. Managers do not seem to make this connection spontaneously —rather, they seem to rely more on a sort of “traditional” KM conception, closer to

technology-based KM projects. Investigation of this conjecture is something that to the best of our knowledge has not been done. This suggests that a research effort aimed at understanding how this connection (or lack thereof) is made in the managers' minds and why would be valuable.

In addition, turning to specific KM practices, another research effort could be devoted to actually challenging the theory in the sense of investigating whether after all knowledge-based competitiveness can be developed through other kind of "KM practices", less mature in the literature which, in turn, could enrich existing theoretical frameworks. For instance, new KM practices based on typical "Web 2.0" tools like blogs or wikis, still not very well researched, might have a strong influence on firms' competitiveness by fostering more effective ways of creating and transferring organizational knowledge.

Finally, if KM practices do indeed foster knowledge-based competitive advantages, then there is a practice-oriented effort that should be undertaken. Managers should be made more aware of the KM practices' potential associated with what existing theory would predict as far as developing and using knowledge (particularly firm-specific, implicit collective organizational knowledge) for the purpose of not only reinforcing firms competitive positioning, but also proactively suggesting business models where knowledge would explicitly play a more prominent role.

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