KNOWLEDGE MANAGEMENT: A CHALLENGE TO THE NEW COMPETITIVENESS OF THE 21ST CENTURY

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Abstract: *Knowledge is now proving to be the fuel of the new economy. Experts also consider it the only real competitive advantage that an organization has over its competitors. To enable organizations to take full advantage of explicit knowledge, especially of the tacit knowledge circulating in their internal and external networks, knowledge management strategies and practices are essential. Without such actions, leaders will be forced to continually resort to often inaccessible external expertise, to retract the historical course of events while regrettably observing huge black holes in organizational memory. To combat these pathologies that secretly threaten organizations, we propose a reflection on knowledge management. In particular, we draw valuable conclusions about the conditions that need to be put in place to ensure the success of initiatives taken in this area. Knowledge management as a new engine of innovation is the source of today's economic values, growth and strategic advantages. Most organizations now operate in an environment characterized by the globalization of the economy, the demand for personalized products / services, increasingly fierce competition for new productive capabilities and distinctive skills, and the increasing complexity of knowledge where the client appears as the main mediator, either in the private world or in the public world. This also leads entrepreneurs to acknowledge that organizations will have to learn to evolve from a business logic centered on the "dictatorship of supply" to one that they call "democracy of demand" and to redistribute in an increasingly informational economy.*

Keywords*: knowledge management, business, skills, organizations*

JEL Classification: M10, M29

Introduction

Knowledge management is a new engine of innovation.

Intellect and innovation are the sources of all the economic values, growth and strategic advantages of today ... despite many popular discussions about "knowledge creation" and "knowledge management", few managers systematically understand the basics, the interrelationships between intellect, professional knowledge, technology and innovation (James Brian Quinn, 1997. Therefore, this new way of thinking requires repositioning our ways of doing things. Internally, they are generally embedded in the following objectives: streamlining costs and reconfiguring key competencies (e.g., reducing organizational size, reengineering business processes, restructuring the business unit directly with specific markets), continuous improvement, and using world class business standards. (e.g., ISO certification, QS, Kaizen approach, competitive comparison, Six Sigma), integration of information (eg ERP software), reduction of cycle times (e.g., use of simultaneous

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DOI: 10.29302/oeconomica.2023.25.1.7

engineering), search for more flexibilities (e.g., decentralization and decentralization of structures, versatility, empowered teams), virtualization of business relationships (e.g., e-commerce, telemedicine). Externally, we are also witnessing the emergence of business strategies based on a conception of the organization as a network and on outsourcing. The latter strategies are implemented both in the private sector, through the concept of strategic alliance, and in the public sector, where new configurations such as autonomous service units and integrated service networks appear. In research conducted on trends and strategic aspects for SMEs in the new economy, these repositioning were classified into four categories: (fig. no.1)

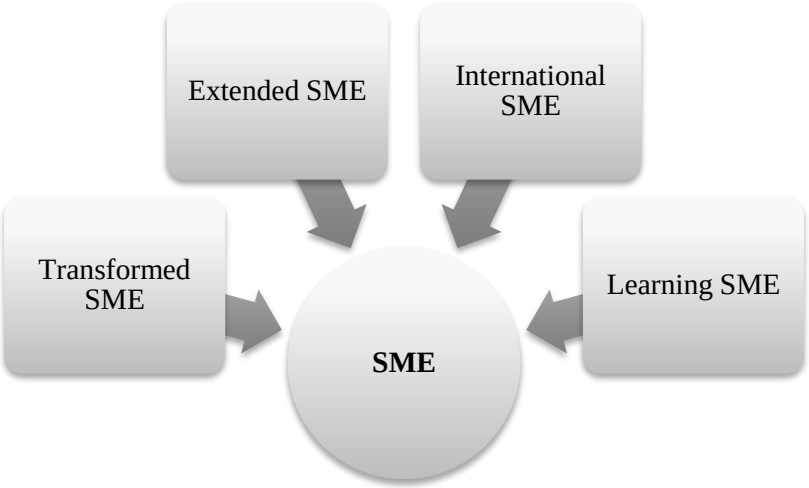

Fig. No. 1 Types of SMEs

- Transformed SME (value chain management and new forms of organization),
- Extended SME (IT / IS management and e-commerce),
- International SME (international and global marketing management),
- Learning SME (innovation and knowledge management).

The different frames of reference on which this study is based can be found in Raymond (2000). Decision makers are therefore looking for the best combinations of these different strategies to develop so-called "world-class" organizations. A horizontal reading of these different business strategies makes us notice, however, that this new competitiveness is mainly based on innovation. However, many point out that the classic innovation model, very linear, concentrated in the research and development departments, reserved for experts, requires more and more resources for better and better results, innovation which is difficult to produce. From another point of view, we can understand the innovations of products, services and processes as a result of a circular process of innovation that increasingly involves all the intellectual assets of an organization, and this at the level of the entire value chain.

The innovation presented focuses on the effectiveness of knowledge dissemination and network learning. Circular innovation is based on knowledge management. The secret for an organization then lies in its ability to promote processes that allow interaction between different individual knowledge or knowledge necessary in different compartments to generate new collective knowledge underlying diffuse innovation.

But for this it is necessary that this knowledge be coded, enumerated, disseminated and provided with new information. Knowledge management must also be able to bring tacit, informal knowledge to the surface so that it can enrich all the explicit knowledge of an organization.

In short, an organization's innovative capacity would therefore be anchored in its ability to transform its more or less organized and individualized knowledge assets into "collective strategic intelligence".

The so-called traditional sources of power for a company, starting with its financial capital, weigh less in the balance of competitiveness than the experience, skills and creativity it possesses.

The aim of this paper is to acquaint the reader with the concept of "knowledge management". This is in line with the recommendations of a recent European Community report highlighting the need to make decision-makers aware of the emerging issues, challenges and practices associated with the "knowledge era". In pursuit of this goal, we sought to strike the right balance between the world of concepts and the world of action. Many illustrations therefore accompany this text in various forms: survey results, business profiles, real business applications.

For the management of essential knowledge, the faster application of knowledge in the work to be done, the faster access to knowledge, the availability to more people, the updating and improvement of them more easily: these are appreciable advantages that indicate that this knowledge should be considered as an increasingly strategic economy. But in order to achieve that it has to be managed.

The knowledge present in an organization is eminently complex and multifaceted, of an incredible variety and richness. And yet, many companies admit that they are not able to map the knowledge they host. An ignorance of its intellectual capital is not without consequences, the absence of mechanisms capable of highlighting it, renewing it, disseminating it and using it must, in other words, manage it. For a company that wants to be "world class", the management of both internal and external knowledge is not a luxury, much less a fashionable expression or the new Eldorado for consultants: it becomes a mandatory step that gradually confirms the results of surveys.

There are some arguments that support the strategic importance of taking on the challenge of knowledge management both internally and externally. Let's note a few:

- It is time for an explosion of knowledge and, more generally, information. Available everywhere, it is experiencing rapid growth, exponential in all areas.
- This explosion of information and knowledge, if not managed, can have a disastrous effect. In other words, if the information is not coded, listed, qualified, contextualized, it risks becoming an obstacle to the development of the organization. Too much information paralyzes decision makers!
- The most useful knowledge for a company is not always what you think it is. Most researchers believe that innovation processes are based on a fair link between explicit knowledge and so-called tacit knowledge. Several research studies show that the intellectual assets used to run a business consist of 30% explicit knowledge and 70% tacit knowledge (intangible personal knowledge, tricks of the trade from experience, creative intuitions, etc.); (Tovstiga and Korot, 1998; Grayson and O'Dell, 1999). Because it is generally more difficult to identify and record in writing, for example, the latter type of knowledge is often overlooked by formal knowledge management systems. From another perspective, as many organizations flatten their structures and eliminate middle managers, the work of Nonaka and Takeuchi (1997) draws our attention to the fact that some organizations take the opportunity to reinvent the work of their managers by entrusting them with a wider mandate for strategic monitoring of information and facilitating the link (e.g., communities of practice) between tacit and explicit knowledge in order to turn it into innovative collective knowledge.
- The market is characterized by an accelerated pace of innovation. In order to increase the full value of an organization's intellectual assets, in addition to listing and sharing it, the companies need to integrate it more and more quickly into products, services and business processes ... speed is of paramount importance. This rate is mainly expressed by the strong growth that online training and learning services will experience through the Internet.

- Major business changes can lead to a significant loss of strategic knowledge. With the departure of key employees, forced, for example, by staff reduction practices or massive retirements, a whole universe of valuable (and expensive!) knowledge and expertise leaves the company.
- ”Reinvented wheel” syndrome is one of the most common time and energy consuming agents. Too many departments or employees find that, unfortunately, they have just rewritten a script that has already been created, tested, and validated elsewhere in the company or similar organization. Knowledge management can only be reduced to technology. In the face of the abundance, even the overabundance of information, in the face of technological progress that requires more and more skills, it becomes imperative to organize knowledge and its process of acquisition, enrichment, dissemination and sharing in the company. Perceptions, attitudes and confidence levels in business have changed significantly.

Knowledge management is a difficult trend and not a passing fad. Hard and at the same time embryonic, as it still appears in the start-up stage in most companies that currently trust it.

Literature review

Peter Drucker, 1999 states that information does not create knowledge ... but contributes to it! Beyond a quarrel between theorists, the distinction is important. This is all the more true as more knowledge management initiatives have failed because we have failed to see the difference between information and knowledge. Information, however valuable, is not enough in itself to increase performance if it has not been interpreted. In other words, information has real strategic value only if it is transformed into operational knowledge at the end of a learning process. Finally, it becomes knowledge when the individual reflects on the information, identifies its potential implications for the improvement of his decisions and actions, and especially uses them to perform a specific function. In fact, information from all sources fuels knowledge, but it cannot replace it. Obviously, it remains essential and must also be handled with care. "Good information management is the essential foundation for good knowledge management.

For information to be useful for knowledge, it must first be cleaned and filtered. Thus, for a company like Nokia, where knowledge management is centered around the research and development function, the filter is provided by the implementation of a sophisticated strategic surveillance system called "Future Watch Teams" that makes it possible to monitor information from the external environment almost in real time in order to modify the internal processes of development of products and services. External information is not provided in bulk, but rather filtered according to research and development guidelines. In this perspective, more and more organizations are inspired by the concept of competitive intelligence (CI) to articulate their approach to strategic intelligence. CI can be defined as a systematic program of gathering and analyzing information, interaction, innovation about the activities of competitors and general business trends to promote your company's objectives (L. Kahaner, 1996).

But knowledge management cannot be reduced to a structured collection of information. Knowledge management is not just about gathering information, such as books in a library, but above all, creating a human and material infrastructure that allows the same information to flow in the organization so that it can be transformed and used there.

"Knowledge management is a new science that aims to reorganize the company around its intangible wealth.” (Boutillier, 1999)

"Knowledge management (KM) refers to adding actionable value to information by filtering, synthesizing and summarizing it, and developing personal usage profiles to help people get the kind of information they need to act." (Wah, 1999)

"Knowledge management involves the recognition, documentation and distribution of explicit and tacit knowledge to improve organizational performance." (Rossett, 1999)

"KM is the process of connecting your company's knowledge with your business strategy, designing knowledge-based organizational structures, and growing the professionals' knowledge." (Tissen, Andriessen and Deprez, 1999)

„"Knowledge management is a process of creating, acquiring, transferring and using knowledge in order to improve the performance of the organization; knowledge management is related to two types of activities: activities that try to document and approximate individual knowledge and those that serve to disseminate this knowledge within the organization and activities that facilitate human exchanges, in the context of which uncoded knowledge is shared." (Hamilton, 1998)

KM is a core competency that companies need to develop in order to succeed in tomorrow's dynamic global economy. KM has become a major strategic organizational theme to create, capture, distill and disseminate relevant development knowledge. (Amidon, 1998)

KM is the process of capturing, sharing and reusing knowledge that organizations used to make more productive and allowing them to get closer to their customers. (Davenport, 1998)

KM is the systematic use of information and expertise to improve organizational innovation, responsiveness, productivity and competence.

KM is a systematic process of finding, selecting, organizing, and presenting information in a way that enhances an employee's understanding of a particular area of interest.

It is the process of creating, capturing and using knowledge to improve organizational performance; KM is most commonly associated with two types of activities; one is to document and acquire the knowledge of individuals and then disseminate it through such places as a company-wide database; KM also includes activities that facilitate human exchanges using tools such as the group program, e-mail and the Internet.

KM is a framework or system designed to help companies capture, analyze, apply, and reuse knowledge in an effort to make decisions faster, smarter, and better.

Knowledge management addresses the critical issues of organizational adaptation, survival and competence in the face of increasingly discontinuous environmental changes. In essence, it embodies organizational processes that seek a synergistic combination of data and information processing capacity in information technology and the creative and innovative capacity of human beings.

Research methodology

The topic addressed on the announced issue is a topic whose research is exploratory, using a logic of induction. The research methodology adapted to this topic is qualitative. As the epistemological position of this research is constructivist, we will try to understand the contribution of a good knowledge management in companies capable of integrating continuous innovation. Therefore, a qualitative approach was adopted through a semi-structured interview. Such an approach is preferable to describe a situation ..... or to explore certain questions (exploratory research), which can hardly be approached by the researcher using quantitative methods.

Therefore, the research will be based on structured interviews and feedback from professionals working in companies. The sources used for this research are management papers, scientific articles, research reports, working papers, other references from different management disciplines such as managerial and technological governance. These documents were also analyzed to bring out the most significant data related to our research topic. At the level of data collection in the field, the research was based on several university publications and media that had a direct or indirect link with knowledge management.

This paper aims to determine the critical steps for the transition from a global strategy to planning based on good knowledge management. A logbook will be kept.

The steps followed were: literature review, verification of theories with experts in the field (semi-structured interview), identification of key people, presentation of the study, research plan, interpretation and analysis of results.

The information collected was classified according to its importance, according to predefined concepts (knowledge management, technology, administrative management, etc.).

The semi-guided interviews used were aimed at conducting in-depth investigations into certain issues of interest. Following these studies, the data collected were subsequently entered and analyzed.

Results and discussions

From the above definitions, we can identify a number of important dimensions related to the idea of knowledge management. It is a strategy:

- which aims at the formal structuring of the explicit and tacit capital of knowledge of an organization;
- in relation to the strategic orientations of an organization and its needs for innovation and improved competitiveness;
- supported by a technological and organizational infrastructure;
- organized around knowledge management processes (identification, coding, dissemination, sharing, creation, etc);
- where the human being is the first place of interaction and creation of knowledge.

The last two points are important. They emphasize that knowledge management corresponds to a fair balance between information processes and relational processes, which can be real or virtual. Consequently, the same balance must exist between the technological infrastructure and the organizational support infrastructure. So these are the main dimensions of knowledge management. In terms of how they are actually operationalized, the analysis of several cases (Skandia, Hoffman Laroche, British Petroleum, Chevron Corporation, Sollac, Nokia, etc.) shows that there is no single model. Knowledge management is a term that describes various activities addressed and is labeled follows: (fig. no. 2)

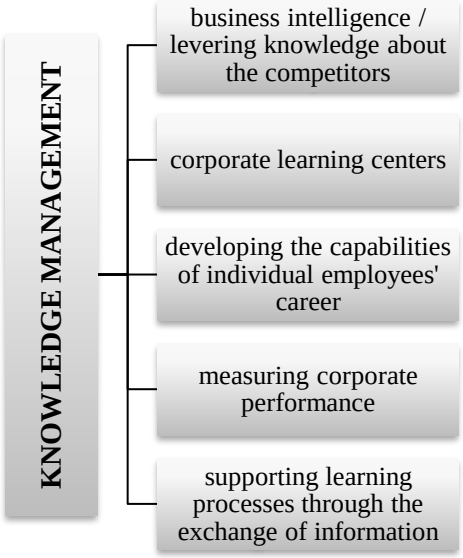

Fig. no. 2 Activities approached by knowledge management

- business intelligence / levering knowledge about the competitors,
- corporate learning centers,
- developing the capabilities of individual employees' career
- measuring corporate performance,

- supporting learning processes through the exchange of information.

Effective knowledge management requires hybrid solutions of people and technology.

Knowledge management means first and foremost establishing links with the strategic orientations of an organization. Nokia's knowledge management is structured around research and development needs. For this company, this is its key process, whose value needs to be optimized. Michael Zack, one of the most important thinkers in this field, argues, following an in-depth study of more than 25 companies that apply knowledge management at different levels of integration, that the main indicator of the effectiveness of knowledge management systems remains alignment with strategic directions of the company. Behind this comment is the idea of usefulness perceived by people who experience the action on a daily basis.

Knowledge management means identifying organizational targets for the organization's knowledge capital. In connection with the strategic guidelines, it becomes important to reflect on the targets that should be the subject of knowledge management applications. These targets can be linked to end goals. The objectives stated by the companies were the following:

- transfer of good practice to action,
- improving employees' skills,
- structuring customer / market information,
- improving internal processes,

supporting product innovation.

Thus, knowledge management should aim at: (fig. no. 3)

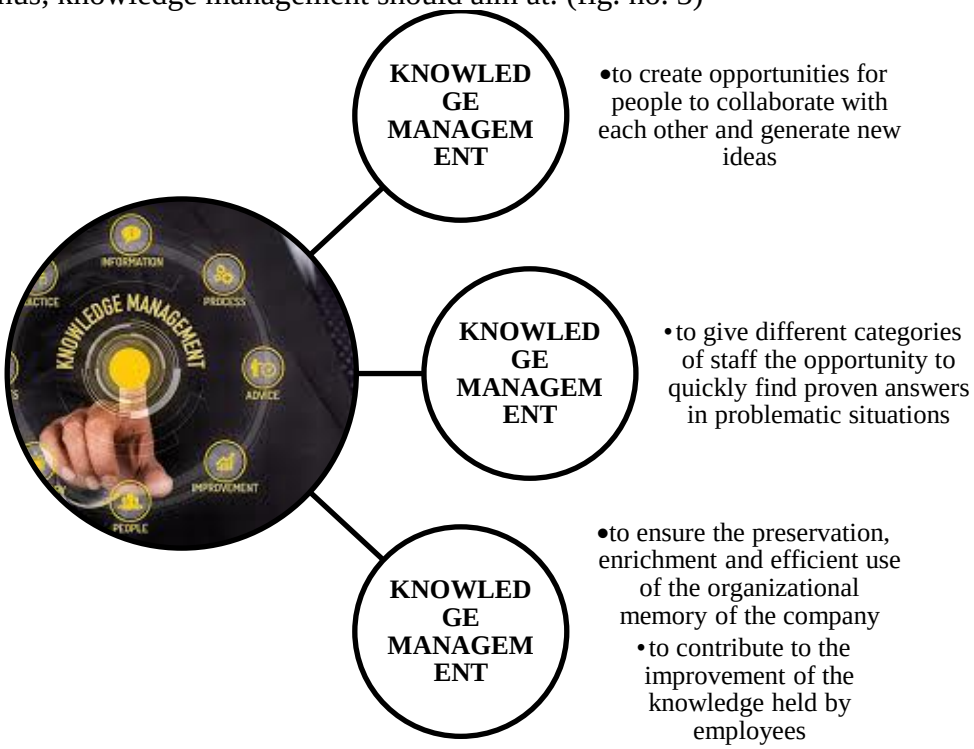

Fig. no. 3 Representation of knowledge management objectives

Knowledge management means the operationalization of knowledge management information processes. When we cross-examine various books and articles on knowledge management, we can identify a number of knowledge management information processes. Some present six (identify, create, collect, organize, apply, distribute), others four (discover / acquire, structure / store, disseminate / transfer, exploit). As an example, we will note the typology of Davenport, a leader in knowledge management, who highlights three main categories of processes (knowledge generation, coding / coordination and their transfer) to which are added specific processes, themselves materialized by field activities.

Knowledge management also means promoting the synergy between tacit and explicit knowledge. Silent, explicit ... all this may seem very obscure. And yet, these are the two types of knowledge present in any company, which any knowledge management project must take into account. Explicit knowledge is all knowledge compiled in a form that makes it easily accessible and communicable (for example a textbook). They can be characterized as follows: objective, formalized, observable, conceptual, operational. This is generally the case with the methods to be followed, the techniques to be used, the frames of reference, the policies to be followed, the articles of law, etc. Electronic knowledge repositories are most often made up of them. On the contrary, tacit knowledge encompasses all unlisted knowledge, most often known only to its holders. More difficult to describe and archive in the form of written documents, however, they cover a wide range, ranging, for example, from know-how to intuition, through the tricks of the trade and the experience gained in human relations, among other fields. Therefore, tacit knowledge is generally informal, contextualized, experiential, and subjective.

Nonaka and Takeuchi, starting from the hypothesis that innovation is part of the synergy of explicit and tacit knowledge, based on the observations made in large companies, identified four processes that favor the interaction between these two forms of knowledge. These are: (fig. no. 4)

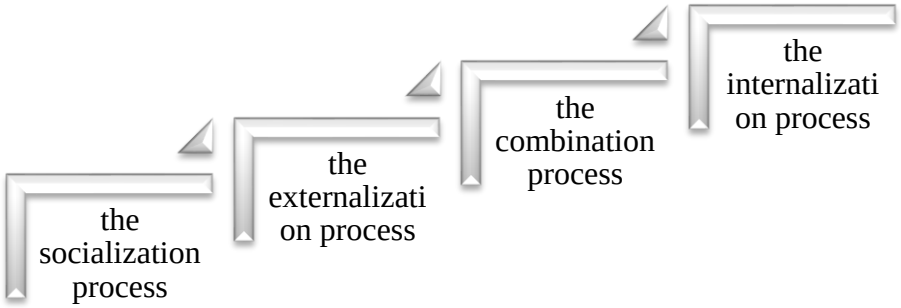

Fig. no. 4 Processes that favor the interaction between forms of knowledge

- *the socialization process*: combining tacit knowledge with each other (for example: communities of practice that can be real or virtual; problem-solving groups in which people test their ideas with each other);
- *the externalization process*: articulating tacit knowledge into explicit knowledge (for example, a problem-solving group whose "outputs" are formally recorded in a repertoire of knowledge to be used);
- *the combination process*: combining explicit knowledge to produce new ideas, new concepts (e.g., expert forum);
- *the internalization process*: the integration of new explicit knowledge into everyday experience, which gradually becomes tacit again (e.g., the use of coaching and e-learning support systems to facilitate learning in the implementation of new practices).

In recent years, companies have wanted to place too much emphasis on the systematization of knowledge, all too often explicit, to the detriment of socialization and internalization processes. Connecting people to each other and helping them learn through practice is just as important as building explicit repositories of knowledge. That's what intranet designers understood. Viewed from the perspective of knowledge management, this intranet has two main dimensions: informational and interactive. The first makes it possible to list and make available numerous repositories of knowledge: toxicological guidelines, prevention, inspection, repairs, legislation, laws, regulations, classification systems, guidelines. These repositories include explicit knowledge as defined above and tacit knowledge that has become explicit simply because it has been documented from field issues

and has proven effective in solving it. The second dimension concerns the network between tacit and explicit knowledge holders.

Depending on the key processes, there are electronic support forums in action, discussion groups, collaborative sites involving external stakeholders, and e-mail. Although several factors underlie the success of this intranet model, which has received several recognition awards, the information-interactional interrelationship is essential for the development of the intellectual capital of this organization.

Conclusions

The organizational climate, the alignment of managerial practices and the organization of work are sine qua non conditions. Thus, as tacit strategic knowledge is a fundamental source of power, no human being will agree to share his "tricks of the trade", his fine knowledge gained over the years, if there is no culture of trust and sharing in an organization and whether performance management practices, including compensation and evaluation for promotional purposes, are not properly aligned. In other words, it is extremely difficult to talk about managing the synergy between tacit and explicit knowledge if the working relationships are weak, if the exchange of knowledge is not taken into account in the promotion criteria, etc. Work organization plays a key role in the synergy between tacit and explicit knowledge. The more decompartmentalized, in a network, in a group, the more this synergy can be implemented.

This is what has been observed in companies that have opted for a work organization based on semi-autonomous or empowered teams. Finally, it is not for nothing that authors in the field of knowledge management pay so much attention to describing the information processes of knowledge management (e.g., identification, coding, systematization, dissemination, application) with their appropriate technologies that the transformation needs of organizations. (alignment of strategy, culture, management practices and work organization).

Knowledge management means promoting a culture of sharing. The most capable sharing capacity is one that includes culture and behavior motivators, a culture that celebrates sharing and team building. If there is one lesson I have learned in all this sharing and learning work, it is that the key to it is culture, culture, culture […] I felt that 90% of an organization's move to success in the exchange of knowledge or learning it is about having the right culture. Indeed, it should be noted that the main determinants of the successful sharing of knowledge, especially tacit knowledge, belong to the register of organizational culture… starting, of course, with that of the management team. Its support is to be placed in the priorities of viable knowledge management. From management comes the "strategic intention" and, of course, the example ... To set an example therefore means to practice and encourage, at all hierarchical levels, the activities (and values!) Provided by the current knowledge management program of the company.

Without a culture that encourages sharing, tacit knowledge will remain hidden and many knowledge management efforts will remain hidden, thus managing only explicit knowledge, limiting the leverage potential of an organization's intellectual capital.

Knowledge management is primarily an activity based on real or virtual interaction between people. As some believe, knowledge management cannot be reduced to the management of new information and communication technologies. In organizations, the social nature of knowledge management is strongly emphasized, which facilitates the use of building and consulting organizational memory.

It is important to understand how organizations create new products, new methods and new organizational forms. But there is an even more fundamental need to understand how organizations create the new knowledge that makes these creations possible.

References

1. Amidon, D. 1998, *Blueprint for 21st century innovation management*. Journal of Knowledge Management
2. Bouteillier, J. 1999, *La ruée vers l'or gris. Neteconomie*
1. 3.Davenport, T.H. Et Prusack, L. 1998, *Working knowledge: How organizations manage what they know*. Boston: Harvard Business School Press
3. Grayson, C.J. Et O'dell, C.S. 1999, Mining those hidden resources. *Education+Training, vol. 41 (3)*, p. 148-149
4. Hamilton, B. 1998, *La gestion du savoir à la commission de la fonction publique. Document de travail*
5. Kahaner L. 1996, *Competitive Intelligence*. USA: Simon & Shuster. Pour plus d'informations sur le concept d'intelligence compétitive, on peut consulter le site Internet de la Society of Competitive Intelligence Professionals. Fondée en 1986, le membership SCIP est passé de 8 à 5000 membres dans les dix dernières années; le site SCIP reçoit 23 000
6. Nonaka, I. Et Takeuchi, H., avec la contribution de M. Ingham, 1997, *La connaissance créatrice, la dynamique de l'entreprise apprenante*. Bruxelles : DeBoeck
7. Quinn, J.B., Baruch, J.J. Et Zien, K.A. 1997, *Innovation explosion. Using intellect and software to revolutionize growth strategies*. New York: Free Press
2. Raymond, L. 2000, *Mondialisation, économie du savoir et compétitivité : un cadre de veille des tendances et des enjeux stratégiques pour la PME*. Gestion, vol. 25 (2), p. 29-38
3. Rossett, A. 1999, Knowledge management meets analysis. *Training and Development, vol. 53 (5)*, p. 63-68
4. Tovstiga, G. Et Korot, L. 1998, *Profiling the 21st century knowledge enterprise*. Proceedings sur CD-ROM, 8th International Forum on Technology: Leveraging Intellectual Capital, Grenoble, France
5. Tissen, R., Andriessen, D. Et Deprez, F. 1998, *Valued-based knowledge management, creating the 21st century company, knowledge intensive, people rich*. Amsterdam: Addison-Wesley
6. Wah, L. 1999, *Behind the buzz*. Management Review, p. 17-26
7. Zack, M. H. 1999, *Managing codified knowledge*. Sloan Management Review, été, p. 45-58