Área Temática: Gestão do Conhecimento
Título: The relation between Knowledge Management and Competitive Intelligence

AUTORES
SANDRA SAYURI YAMASHITA
Universidade de São Paulo
sandrasy@usp.br

HENNING ELLINGSEN
Norwegian University of Science and Technology
hennine@stud.ntnu.no

Abstract

Competitive intelligence will in this paper be considered as a process in which organisations capture weak signals and interpret their importance and impact on the organisation. Although competitive intelligence may be useful when making tactical decisions, we will focus on the strategic use of this asset. Competitive intelligence involves collection of information, knowledge creation, dissemination and use of the information. Knowledge Management has as its objective to make the right information available to the right persons at the right time. In this context, both Davenport in his Knowledge Market analogy and Nonaka with the SECI model consider creation and dissemination of knowledge a social process.

Competitive intelligence has a more shallow scope than Knowledge Management, namely to provide management with strategically important information to be used in the strategic planning process. But in order to be effective, competitive intelligence also has strong elements consisting of social interaction. This is an important part of the L.E.SCAnning method proposed by Humbert Lesca.

We come to a general comprehension that companies may benefit from taking Knowledge Management (KM) into consideration when designing a Competitive Intelligence (CI) System, as KM enhances and supports the key processes of any CI system.
Keywords: competitive intelligence, knowledge management, environmental scanning.

Introduction

An organisation is an open system in an uncertain environment. This makes it important for any organisation to be conscious about the nature and possible future of the environment in which it acts (NARCHAL, KITTAPA and BHATTACHARYA, 1987:96). Detecting opportunities early puts a company in better place to exploit them and early detection of threats makes the company able to avoid strategic surprises. Thus, a company with the capability of capturing information that enables this detection will gain competitive advantage. However, this information is scarce and fragmented and often exists in the form of weak signals (ANSOFF, 1975). Competitive intelligence is an important tool in capturing these signals and in transforming them into actionable information and knowledge.

Knowledge has been discussed in several different contexts. "In general, knowledge depends on the eyes of the observer and meaning for this concept is attributed according to the way it is used" (WITTGENSTEIN, 1958, apud VON KROG, ICHIJO and NONAKA, 2001:14). Over the decades, the source of economic competitiveness has been shifted from the industrial paradigm to one that is knowledge-based (ROSSUM, CHAUVEL and MANGHAM, 2002:28).

This study aims to explore the different aspects of the competitive intelligence. We will

also analyse the Competitive Intelligence Process in light of the current Knowledge Management theories. We hope, with this paper, to offer a better comprehension of the relation between Knowledge Management (KM) and Competitive Intelligence (CI) to the benefit of the organization.

The Competitive Intelligence Process

Competitive intelligence is, like any other activity in the strategic planning process, essential to the long-term survival and prosperity of the company (BERNHARDT, 1994:22). The complexity of today's business environment makes it impossible for decision makers to grasp all the possible problems and challenges of the company and it is the task of the CI system to provide early warnings about threats and opportunities so that the company can take the necessary measures in time (LAQUEUR, 1985, apud BERNHARDT, 1994:14).

The CI process is firmly rooted in the notion that an increased comprehension of strengths and weaknesses of competitors leads to a more efficient strategy (WALLECK, 1991, apud BERNHARDT, 1994:13). This increased comprehension is achieved through the capturing and processing of weak signals. ANSOFF (1982) defined weak signals as warnings, events and developments that are still too incomplete to permit an accurate estimation of their impact and/or to determine their complete responses. HARRIS and ZEISLER (2002:24-25) add that weak signals are small events that have the potential to make a big difference. These signals are deemed weak not because of lack of importance, but because they are so small as to be obscured by other irrelevant factors or dismissed as inconsequential by quantitative extrapolations.

NARCHAL, KITTAPA and BHATTACHARYA (1987:97) define a CI system as a collection of radars that monitor the important events of the environment. A good system captures this anticipative information and generates early warnings applicable by organisations in the strategic planning process. These warnings may be elaborated in the form of scenarios that indicate the possible impacts and effects of the event anticipated by the early warning. The objective of the CI system is to transform disaggregated data of the environment into strategically actionable knowledge and make it available to the right persons at the right time. In order to achieve this objective, the Competitive Intelligence Unit has to go through the following steps: decide whether or not a captured weak signal is valid; analyse the signals and determine possible strategic implications; estimate impact and make recommendations.

The outcome of this process represents the product of CI. Thus, CI is just as much a product as it is a process (BERNHARDT, 1994:13). The CI process generates value by facilitating a more informed strategic process, thereby enabling the organisation to obtain competitive advantage (LAQUEUR, 1985, apud BERNHARDT, 1994:16).

According to The Central Intelligence Agency (CIA) of the United States of America, the intelligence process consists of six phases (FARREL, 2001, apud COBB, 2003):

1. **Destination**: preparedness and capability to perform the task.
2. **Demand**: identifying information needs and approaches.
3. **Discovery**: capturing the information.
4. **Development**: process and make sense of the captured information.
5. **Delivery**: making the intelligence available to the right persons at the right time.
6. **Disengagement**: debriefing.

This suggestion may be considered a conceptual framework for CI and several CI systems use a similar approach.

LESCA (2003) proposes a complete CI method with several specific steps or phases. Lesca's approach is firmly grounded in the notion that making sense of weak signals is a participative process to be undertaken by a group of people and not by individuals. In this paper, we will use Lesca's approach as a reference model to CI systems, although we argue that most of the aspects concerning the relation between Competitive Intelligence and

Knowledge Management are valid for other approaches of Competitive Intelligence as well.

The L.E.S.canning method (LESCA, 2003) consists of the following steps:

1. **Use it to act**: choice of the domain of application, and delimitation of the model perimeter.
2. **Collective sense creation**: interactive information transformation, particularly of weak signals, into moving forces for managers' actions.
3. **Target**: delimitation of the organisation's environment towards which the analysis will be conducted.
4. **Search**: capture of information and signals on the target environment. This phase is related to: choice and nomination of researchers with intuition on information expected, contamination of people on the sources pointed by the target, search operation, retaking of information for the memories, equalisation of this information, researchers training.
5. **Selection**: individual, firstly, and then, collective choice based on accurate and explicit criteria.
6. **Memories**: all the storage means or places where information can be accessed.
7. **Retaking**: gathered information transmission operation.
8. **Diffusion**: organisation of the feedback to researchers and partners.
9. **Animation**: the human factor, which can make the difference.

In sum, the CI process is an effort to capture and make sense of weak signals in the environment of an organisation. Care needs to be taken to avoid being overwhelmed by information and careful filtering is necessary as well. In making sense of the captured information, LESCA (2003) proposes a participative and interactive process in which a common meaning is constructed. The ultimate objective is to provide the organisation with actionable knowledge about the environment and thus enable it to achieve competitive advantages.

The concept of Knowledge Management

In 1964, Peter Drucker coined the expression "knowledge worker" in his book *Managing for results*, introducing the then radical notion that workers should be directed by the authority of knowledge rather by the authority of the corporate hierarchy. At that time, knowledge in an organization was a scarce commodity, carefully kept by those who possessed it and shared only under duress. As society gradually shifted to an "information economy", the need for access to information increased. However, until recently, knowledge workers continued to labour under the handicap of restricted access to the systems they needed to do their jobs (FELDMAN and SHERMAN, 2001).

In the "European Guide to Good Practice in Knowledge Management" (MEKHILEF, KELLEHER and OLESEN, 2003), knowledge is defined as: "the combination of data and information, to which is added expert opinion, skills and experience, to result in a valuable asset which can be used to aid decision making." They also define Knowledge Management as: "management of activities and processes for leveraging knowledge to enhance competitiveness through better use and creation of individual and collective knowledge resources." From a more pragmatic point of view, RUNDSTEIN (1999, apud CARON-FASAN and FARASTIER, 2003) defines knowledge management as "an activity that consists of locating, preserving, valuing and keeping all the strategic knowledge of the company up-to-date".

A KM system may have profound impact on the strategic level of the organisation such as (HOFFMANN et al, 1996, apud RIAN, 1997):

1. Increased efficiency, effectiveness, profits and growth potential through shared understanding between all the participants in the value chain
2. Development and maximisation of the value of knowledge from internal sources

3. Utilisation of external sources of knowledge
4. Provide a competitive advantage through increased focus on and understanding of the organisational environment
5. A capacity to continuously evolve and transform products, business processes and organisational structure.

On an operational level, a KM system:

1. Breaks down artificial barriers that divide the organisation internally and that stops it from interacting efficiently with its partners, customers and suppliers.
2. Make necessary knowledge and information available at the right time.
3. Diminish product development and product cycle time by minimising delays caused by missing information or knowledge.
4. Reduce costs caused by using inaccurate or outdated information.

Knowledge management is no longer a systems issue, but rather a holistic initiative that views organisations as socio-technical phenomena whatever their core activity. As organisations become more knowledge-based, work becomes more knowledge-intensive (ROSSUM, CHAUVEL and MANGHAM, 2002:29).

Knowledge management starts from the selection of the knowledge to be managed. This process includes the answers to the following questions (STEWART, 2002:180):

1. What is the workgroup?
2. What does this group need to know?
3. Do you standardise or customise?
4. What is the nature of knowledge?

The knowledge assets in play include both those that are explicit, easily accessed and codified, and those that remain implicit and locked in a psychosocial context. Knowledge management is focused on the systematic development of all such assets (ROSSUM, CHAUVEL and MANGHAM, 2002:29).

Currently, KM is becoming a very popular tool in contemporary management theory and more and more companies are implementing KM systems to support their strategic objectives.

A taxonomy of Knowledge Management

NONAKA (1991) divides knowledge into tacit and explicit knowledge. These two groups have different functions and characteristics. They are not to be considered opposites, but rather complements that exist side by side throughout the organisation and fulfil different roles in the organisational life. This means that both of the knowledge categories need to be addressed by a KM system.

The expression "tacit" arises from Latin, with the meaning of "silent or secret"; tacit knowledge is the one that people have, but does not disclose itself in a expressive way. Tacit knowledge consists of mental models, behaviours and perspectives, largely based on experience (MEKHILEF, KELLEHER and OLESEN, 2003). Tacit knowledge is found mainly in the human capital and customer capital, as in the people and in the relationships (STEWART, 2002:188-189). In another words, tacit knowledge is personal knowledge embedded in individual experience and involves intangible factors as personal belief, perspective, and the value system. Thus, tacit knowledge is not shared throughout the organisation. It is, in general, not codified and tends to be difficult to express verbally. It is normally used by people to make sense of their every day life and duties and is, therefore, an important part of the organisational life. Tacit knowledge includes cognitive and technical elements. The cognitive elements center on what Johnson Laird calls "mental models", in which human beings create working models of the world by making and manipulating analogies in their minds. Mental models such as schemata, paradigms, perspectives, beliefs and viewpoints help individuals to perceive and define their world (NONAKA and TAKEUCHI, 1995).

On the other hand, explicit knowledge can be expressed in words and numbers, and

easily communicated and shared in the form of hard data, scientific formulae, codified procedures or universal principles. Almost all explicit knowledge belongs to the structural capital domain: documents, databases, manuals, intellectual property titles, formulas, recipes, procedures etc. The essential tasks of managing explicit knowledge are: assemble it, validate it standardize and simplify it as much as possible, keep it up-to-date, leverage it, make sure that all those who need it know where to find and how to use it, automate and speed up the process of recovery and application, and enrich it (STEWART, 2002:189).

Tacit knowledge is the complement of explicit knowledge and most of the jobs involve a combination of explicit and tacit knowledge. However, the major part of KM is limited to explicit knowledge and people are frequently trained to use explicit knowledge. Meanwhile, they are advised to use tacit knowledge (STEWART, 2002:188-189).

Knowledge evolves over time and is transformed between explicit and tacit knowledge. This transformation occurs in a process of social interactions between individuals and is an important mechanism for creation of new knowledge and expansion of its use. NONAKA and TAKEUCHI (1995) describe a four-step process by which knowledge is developed and transferred – the SECI model (figure1). In this process, tacit knowledge becomes explicit when one externalises what he knows; following, explicit knowledge again becomes tacit when it is internalised (STEWART, 2002:189). Creating systems that govern these mechanisms to expand and fortify the organisations knowledge base is the key objective in any KM system.

Figure 1 - The SECI process

Source: adapted from Clark (2004).

Socialisation is the process of learning tacit knowledge through sharing of experience. Through this transformation, new members of the organisation learn knowledge that are not written down but rather embedded in the organisation. Externalisation is the conversion of tacit knowledge into explicit knowledge. This is a crucial part of KM that allows knowledge held by one individual to be shared throughout the organisation. In combination, various pieces of explicit knowledge are put together and synthesised to create new, explicit knowledge. The internalisation step consists of converting explicit into tacit knowledge and hereby embedding the knowledge gained in individuals often in the form of shared mental models or work practices (NONAKA, 1991, apud CHOO, 2003).

The concept of "ba" is central to this process. Originally proposed by the philosopher Kitaro Nishida, and developed by the chemical scientist HIROSHI SHIMIZU (1995, apud NONAKA, VON KROG and ICHIJO, 2001), this concept was coined in business literature by Nonaka as a shared space for the emergence of relationships. This space can be physical, mental or the combination of both. In Nonaka's conception, the difference between "ba" and ordinary human interrelations is the concept of knowledge creation (FAYARD, 2003). Therefore, it comes up that "ba" is a shared space, which supports knowledge creation in the form of an enabling context for the tacit knowledge to be released.

ALAVI and LEIDNER (2001) have assembled a more extensive list of taxonomies of knowledge such as tacit (cognitive and technical), explicit, individual, social, declarative, procedural, causal, conditional, relational, pragmatic. BROWN and DUGUID (2000:4) defend an alternative approach in which explicit knowledge is more related to process and tacit knowledge is what drives practice. In this sense, if the organisation leans too much towards practice, the company may get new ideas bubbling up all over the place, but it will lack the structure to harness them. On the other hand, if the company leans too much towards
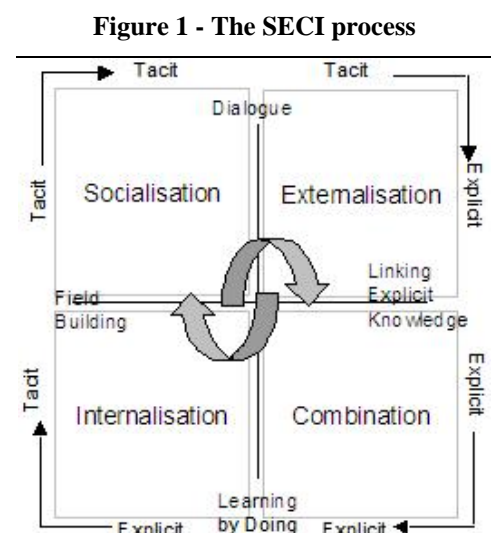
process, it gets lots of structure, but too little freedom of movement to strike that initial spark. Finding the right balance is a central task for managers everywhere.

In business context, knowledge can be also classified into two possible categories: exclusive knowledge, which is confined only within the organizations boundaries, and public knowledge, that is accessible to the competitors. In order for exclusive knowledge to be considered a source of competitive advantage, three other criteria must be satisfied: it must be valuable, difficult to reproduce by competitors, and difficult to replace (BARNEY, 1991, apud VON KROG, ICHIJO and NONAKA, 2001:96). Because it is embedded in individuals and not codified, tacit knowledge is always more difficult to imitate than explicit knowledge.

Knowledge dynamics and knowledge flows

DAVENPORT and PRUSAK (1998) propose a KM framework, which is useful when analysing how knowledge flows and is exchanged in an organisational environment. They define knowledge as "a fluid mix of framed experience, values, contextual information, and expert insight that provides a framework for evaluating and incorporating new experiences and information. It originates and is applied in the minds of knowers. In organizations, it often becomes embedded not only in documents or repositories but also in organizational routines, process, practices, and norms" (DAVENPORT and PRUSAK, 1998:5).

DAVENPORT and PRUSAK (1998) use the metaphor of knowledge markets to explain the flow of knowledge in an organisation. In this market, three principal actors interact to trade knowledge: buyers – people seeking knowledge to resolve an issue –, sellers – people with an internal market reputation for having substantial knowledge about a process or subject –, and brokers – people who make connections between people who need knowledge and those who have it: gatekeepers, boundary spanners, corporate librarians. These actors may have three motives for sharing knowledge: reciprocity, reputation and altruism. These motivations may be interpreted as the forms of payment that are valid in the knowledge market. An actor primarily motivated by reciprocity will share his knowledge expecting the receiver to pay back by providing him with knowledge at a later time. Actors using this payment method would see providing others with knowledge as accumulating debt that may be collected at a later time. Actors motivated by reputation shares their knowledge because they value being perceived as wise or knowledgeable. The respect they receive is their payment for sharing their knowledge with others. Finally an altruistic actor shares knowledge simply because he or she likes to help others (DAVENPORT and PRUSAK, 1998, apud CHOO, 2003). Clearly an actor will not be motivated by one of these three factors alone. In stead, every actor will be motivated by a mix of these factors and it is up to the organisation to tap into this motivation and stimulate it to enhance organisational performance.

Using the metaphor of a market place for knowledge, DAVENPORT and PRUSAK (1998) argue that the organisation must provide location and opportunity for the trading of knowledge to take place. The classic example of this is the water cooler, but they recommend structuring this knowledge trading using talking rooms, mentors, and knowledge fairs. DAVENPORT and PRUSAK (1998) believe that the main obstacle to knowledge trading and transfers is the organisational culture. Hence, the main obstacles an organisation has to confront are: lack of trust, different language and cultural context, lack of time and places to meet, the perception of what is constructive work and what is not, lack of capacity to absorb knowledge, the idea that knowledge is local and only belongs where it was created, intolerance regarding misunderstandings.

ALLEE (2003) also describes some myths that can cause confusion and wasted effort, depending on the context in which they are interpreted:

1. "**People don't want to share knowledge**": usually people don't have time, skills or are not exposed to suitable methods, infrastructure, policies, rewards, culture and corporate values to transfer knowledge.

2. "**We need to make tacit knowledge explicit and systematized**": this myth may be a result of a general misunderstanding of the Polanyi's concept of tacit knowledge or an alternative interpretation towards stored memory, experience or content that simply has not been articulated. This myth disregards the tacit knowledge as resource in itself. However, not all personal experience is of equal value to a company.

3. "**Documentation is the key to sharing best practices**": this myth can be unfolded into two others: (a) Technology replaces the need for face-to-face sharing; (b) Best practices don't need to be copied exactly.

Finally we would like to point out Nonaka's words on the ever shifting nature of knowledge: "People do not just passively receive new knowledge; they actively interpret it to fit their own situation and perspective. (…) As a result, there is a continual shift in meaning as new knowledge is diffused in an organisation" (NONAKA, 1991:7).

Implementing Knowledge Management Systems

Lew Platt, a former Hewllet Packard CEO, stated that a company must "know what it knows" to make the most of its knowledge. That requires two steps: first, managers need to learn what local knowledge exists; then, if the knowledge looks valuable, they need to put it into wider circulation (BROWN and DUGUID, 2000:5).

Implementing a KM system is an extensive process that often includes changes in the organisational culture, division of responsibilities, leadership and reward systems. In addition, the physical work environment changes and new technology is introduced. Any organisation that wishes to excel at KM needs to improve its knowledge creation processes, both at the individual and at the group level. NONAKA (1991, apud CHOO, 2003) suggests five measures to obtain this:

1. **Intention** is the organisation efforts to obtain its goals and it is related to the willingness of the organisation to actively undertake measures that increases its abilities to acquire, create, accumulate and exploit knowledge. An important issue is developing a vision of what kind of knowledge the organisation is interested in.

2. **Autonomy** means that people, as far as possible, are free to act autonomously on an individual level. Autonomy increases the possibility to introduce new and creative solutions and is a good motivator to create new knowledge.

3. **Fluctuation and creative chaos** builds on the fact that knowledge creation is a continuous interaction between individuals or groups. Through chaos and discontinuity, new patterns of interaction may be created and individuals learn to deal with the complexity (i.e., uncertainty, redundancy and randomness) of organisational knowledge.

4. **Redundancy** is the existence of knowledge that reaches further than the purely operational needs. It facilitates the creation of knowledge because organisational members have overlapping information and mental models, which fosters communication.

5. **Requisite variety** is a consequence of the current complex organisational environment. In order to handle this complexity and variety the organisation itself needs to be diverse and complex.

HOFFMANN et al (1996, apud RIAN, 1997) divide the process of implementing a Knowledge Management System into the following steps and guidelines:

1. **Identify needs and set goals.** This includes the specific needs and the possibilities offered to meet them. Clear goals and a vision of the system are an important part of ensuring user involvement.

2. **Focus on human and organisational factors.** The general consensus within the KM community is that although technology may play an important role in KM, most of its results stems from changes in social systems and interaction. It is therefore

important to design organisational structures and reward systems that motivate participation and sharing of knowledge through social interaction.

3. **Define knowledge architecture and user context.** User involvement is important in this step to both to ensure adoption and ownership and to maximize the utility of the final system.

4. **Choose technology, test and implement.** The final step is implementing an information infrastructure that supports the KM system. The KM process of any organisation is constantly evolving, which makes it important that the infrastructure is flexible and scalable.

This process is iterative and the four steps may well be executed in parallel. HOFFMANN et al (1996, apud RIAN, 1997) argue that the first three steps are the most important since they affect social interaction directly. Knowledge is bound to be in permanently renewal if the company does not want it to die, and its almost autonomous development in the isolated communities inside the company brings intrinsically the risk of transforming the today's core competencies into tomorrow's rigidities.

In designing a KM system it may be useful to consider various perspectives. K. M. Wiig recognises the existence of three such perspectives that may be helpful when implementing a Knowledge Management System (RIAN, 1997).

- **Business perspective**: focusing in why, where and to what extent the organization must invest in or exploit knowledge.
- **Management perspective**: focusing on determining, organizing, directing, facilitating and monitoring knowledge related practices and activities.
- **Operational perspective**: focusing on applying the expertise to conduct explicit knowledge related to work.

VON KROGH, ICHIJO and NONAKA (2001) believe that although KM is often thoroughly discussed in organisations, it represents an uncomfortable paradigm rather than a reformer one. The main reasons for this assertion are: emphasis on quantifying even the less significant information; obsession with measurement tools; use of terminology, which limits the free flow of ideas; rigidity of the current procedures and the excessively generalized assumption that is possible to control knowledge. Based on this, they presented three traps concerning the implementation of a Knowledge Management System:

1. Knowledge management depends on easily detectable and quantifiable information.
2. Knowledge management is limited to development of tools.
3. Knowledge management depends on a knowledge executive.

In a complementary way, BRIDELLI and CARDI (?) argue that a KM project fails due to one or more of the following reasons:

- The approach does not take into consideration the company's business strategy.
- The program objectives are not clarified.
- Information to be shared is not previously defined before the choice of the technology.
- An absence of a suitable reward plan to stimulate new tools utilization or new process effectiveness.
- Insufficient resources allocation.
- Inadequate communication and, consequently, compromise.
- Instead of a gradual implementation plan, the program is launched as a "big bang".

In short: knowledge management goes wrong when is generically applied. It needs the human interaction richness and technology efficacy focused in business situations with deep knowledge (STEWART, 2002:190).

In this section we have seen that most of the advantages gained from a Knowledge Management System stems from its social and organisational elements. This view is further

strengthened by the fact that the most important challenges are tied to these issues and not to the specifics of a technological solution. Based on this we will focus less on technology and more on social aspects in our following discussion of how KM can support and complement the CI process.

The relation between Knowledge Management and Competitive Intelligence

According to NONAKA and TAKEUCHI (1997, apud FAGGION, BALESTRIN and WEYH, 2002:58), organisations generate knowledge to the extent of the interactions with their environments. Both knowledge management and intelligence aims to offer the right information and knowledge to the right person at the right moment, and find the best way of analysing, classifying, organizing and presenting knowledge efficiently so as to allow receivers to make decisions that can benefit their organizations is a key issue for both areas (BARCLAY and KAYE, 2002:186).
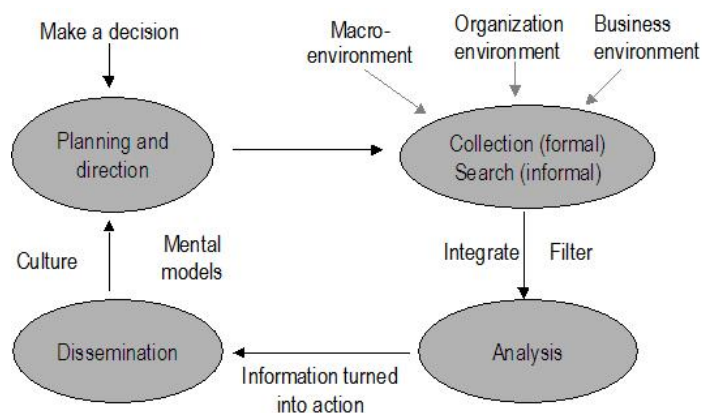
CARON-FASAN and FARASTIER (2003) believe that the two concepts are connected in such a way that KM can aid the development of tools for environmental scanning and that, likewise, environmental scanning can be a tool for KM. More specifically, they agree that environmental scanning is a tool for knowledge acquisition because it rests on the environment observation, information collection and a complex creation of sense process based on often-partial information. This relation is quite important to the organization competitive strategy to the extent that what makes the difference is the organisation's ability to interpret and synthesise the information that comes, leading to a differential knowledge. CARON-FASAN and FARASTIER (2003) conclude that the environmental scanning is thus a process of KM. It offers organizations the opportunity of reinforcing its innovation capacity, acquiring sustainable competitive advantages and answering to the market competitive intensity. This can be achieved by knowledge and expertise sharing and increasing, developed by the members of the organization.

BARCLAY and KAYE (2002:187) suggest that while KM has as its objectives to increase the existing knowledge in the organisation and turning it actionable, CI aims at capturing both external and internal information. They also point out that, to understand how KM is interrelated with intelligence functions, it is worth to examine specific practices on KM which are complementary to the intelligence process such as: identification of experts in the subject and of intellectual capital sources, counterbalancing of new processes necessity concerning to organizational culture, and technology application to support the process.

A key element of the Competitive Intelligence Process is the Knowledge Production sub process, which is composed of the following phases (MARCIAL, 2001 apud MARCIAL, COSTA and CURVELLO, 2002) (figure 2):

Figure 2 - Knowledge production in Competitive Intelligence

Source: MARCIAL, COSTA and CURVELLO (2002:25).

- **Direction and planning**, in which the key objective is to delimit the focus of the intelligence effort.
- **Data collection and formal and informal information search**, in which data and information are obtained, both from the macro-environment, the competitive environment and the internal environment of the organisation.
- **Analysis,** to be produced in an integrated and filtered way.
- **Dissemination,** considering the organisation's culture and the mental model of the

decision makers.

However, in the environmental scanning process, the organization must also know how to consider tacit and explicit knowledge. The environmental scanning process is believed to put in evidence the structures and procedures of the organisation in order to avoid a situation in which they don't solidify and therefore deprive the organisation of its adaptation and innovation capacities.

Using the taxonomy of BARNEY (1991, apud VON KROG, ICHIJO and NONAKA, 2001:96), the purpose of CI is to obtain exclusive knowledge by collecting and processing public knowledge. This process may be described in terms of the SECI model:

1. The first step is to collect all available information. An important part of this is to externalise the tacit information already embedded in the organisation. According to COBB (2003:81), as much as 80% of information used for CI already exists inside the organisation.
2. The next step is to analyse this explicit knowledge together with other explicit knowledge obtained from external sources, in an attempt to create early warnings in the form of actionable knowledge. This function is performed by the collective creation of sense in the method of LESCA (2003).
3. When the new knowledge is created, it needs to be internalised in order to be a part of the mental models of the individuals.
4. At last, the mental model diffuses throughout the organisation by the means of socialisation.

While Lesca's method is strong in terms of capturing and making sense of weak signals, it may be argued that it is incomplete in terms of disseminating that knowledge and making it available to the organisation. This is where KM may play a significant role. LESCA (2003) refers to the multiplicity of the memories and the variety of content of them as the main difficulties in the process of collective intelligence creation. To accomplish the task of collective sense creation, information and knowledge must be available at the right moment and place. In general, information and knowledge are fragmented, spread, informal (mainly tacit), and ambiguous.

The relevance of the "ba" concept for the CI rests on the interactions at the moment of collective intelligence creation, where actors share a common language to serve to community's similar objectives; this fits neatly with the intention of collective creation of sense. To collectively create sense, collected information must be merged with tacit knowledge and experiences of a great amount of members of the organisation. The useful knowledge to explore the information of the environmental scanning and create collective intelligence must fit these features:

- Knowledge derived from a manifold of people, by definition, from the collective intelligence.
- Knowledge connected to the learning of the lived experience of people, hence, originally tacit knowledge.
- Knowledge retained by people, probably spread in the frontier of environmental strategic scanning.

Finally, KM can also assist the knowledge diffusion process related to the collective sense creation, mainly in terms of organisation, just-in-time information access, and media richness.

In this context, a major concern is how to facilitate the access both to knowledge and those who hold the knowledge. LESCA (2003) offers some tools for storage and formalisation of knowledge, which include identification of the knowledge retainers, their location, detailed description of this knowledge and a trackers forum. CARON-FASAN and FARASTIER (2003), with some ideas of BELMONDO (2000) identify some difficulties in the relation

between Competitive Intelligence and Knowledge Management:

- The interaction of a great variety of knowledge (tacit and explicit, individual and collective) is important to guarantee the richness of the process but it also adds complexity.
- Constituting an interactive and recursive process requires a complex management system.
- The necessary management tools used to formalise the process, or parts of it, exert an influence on the process itself.
- The mobilisation throughout many distinctive phases of several actors (decision makers, managers, scanning animators and information trackers), with diversified competencies, multiple motivations and implications concerning to the strategic vision of the organisation, makes it more complex to manage.

Intelligence is the anticipation of movements and not the reporting of what happened. In this sense, CI can be considered "a proactive informational process which has the potential to conduct to the best strategic or business decision making, and to protect the sensible knowledge of the organization" (MARCIAL, COSTA and CURVELLO, 2002:24). This process has its foundations in Administration, Information Technology, Knowledge Creation, Information Science and Counter-intelligence.

In this section, we have explored the possible advantages of complementing the Competitive Intelligence process with Knowledge Management methodology.

Final Considerations

As NONAKA (1991) states: "in an economy where the only certainty is uncertainty, the one sure source of lasting competitive advantage is knowledge. (…) Successful companies are those that consistently create new knowledge, disseminate it widely throughout the organization, and quickly embody it in new technologies and products." These are key elements for competitiveness.

Environmental scanning establishes to the company a favoured means of learning and knowledge creation (HUBERT, 1991, and JACOB and PARIAT, 2000, apud CARON-FASAN and FARASTIER, 2003:8). It supplies the organization with answers to a vital necessity, which rests on an economy where the sole certainty is uncertainty, by developing the competitive advantages sources through the permanent construction of new representations and visions of the environment, and by the stimulation of a continuous innovation process (NONAKA, 1991, apud CARON-FASAN and FARASTIER, 2003).

The process of knowledge creation is, most of the times, not a spontaneous choice of the knowers. From that question arises the need of a systematic identification, collection and organisation of useful information so as to consolidate an effective CI system. Moreover, this process requires a huge effort from the managers to extract valuable information from its employees and drive it to the organizations strategic objectives.

Another important issue is that just creating knowledge is not sufficient to guarantee an efficient competitive intelligence. In the words of STEWART (2002:180) "(…) the important thing is not what you know, but the quickness of your ability in accessing all the things that you don't know. And who can get this information in a few seconds does really know everything". In this context, one of the main advantages of a KM system is that it helps managers understand and structure the otherwise seemingly chaotic system of knowledge that is vital to the competitive intelligence process.

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