



Synergy Between Competitive Intelligence and Knowledge Management - a key for Competitive Advantage

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ABSTRACT: The market orientation perspective states that organizations have no option but to look beyond internal business activities and to integrate events from the external environment. These are complex, turbulent and rapidly changing. Firms today are led to utilize information and the knowledge of companies because to succeed in the information economy comes from harnessing these resources. Knowledge and information become strategic, paramount and must therefore be managed. Integrating knowledge management (KM) and competitive intelligence encourage the use of these resources, improve their quality and allow an enterprise to respond more rapidly to changing business conditions. The aim of this article, is to present similarities, differences, benefits of KM and CI for the organization through the study of current literature. Besides, we present critical success factors needed to achieve a successful implementation of these two processes, and further, highlight the importance of KM and CI integration for the organization to compete in the knowledge economy.

Keywords: Knowledge management, competitive intelligence, competitive advantage

1. Introduction

The globalization of markets accompanied by rapid change in information technology has increased the competitiveness in most industries. In the struggle to remain competitive, many companies have turned to new technologies to improve their business activities. This development is also true for information-related activities and will directly affect the development and quality of a firm's business and corporate level strategies. These activities are

integrated in the CI and KM functions of the company. Deed and Hill (1996) argue that "firms that are acquiring knowledge will be able to create and sustain a competitive advantage in the knowledge-based economy. Those (firms) that are not will have difficulty maintaining their competitive position". CI has long been recognized as a strategic management tool and a fast growing field. CI is rapidly becoming a major technique for achieving competitive advantage (Davis, 2004). Essentially, CI involves the legal collection of information on competitors and the overall business

environment. The knowledge gained from this information is used to enhance the organization's own competitiveness. As such, CI can also be viewed as a subset of KM.

Organizations possess numerous resources, but it is the resources that are unique, inimitable, and valuable which are central to a competitive advantage (Barney, 1986, 1991; Prahalad and Hamel, 1990; Wernerfelt, 1984). An organization's knowledge is one such resource. According to Civi (2000) and Gupta, Iyer, and Aronson (2000), the only competitive advantage that organizations will have in the 21st century is what they know and how they use it. This is because the proper management and leveraging of knowledge can propel an organization to become more adaptive, innovative, intelligent and sustainable (Wong & Aspinwall, 2004a).

In fact, KM has become an important strategy for improving organizational competitiveness and performance by applying it to production, marketing, research and development, personnel, planning and innovation. It is also considered as creating sustainable competitive advantage for organizations (King and Zeithaml, 2001; Johannessen and Olsen, 2003; Lado and Wilss, 1994; ofek and sarvary, 2001). Thus, the vision of KM is to improve a firm's competitive powers or to maintain a firm's competition powers. KM is the management of knowledge assets within an organization to enhance competitive power by steering product, leadership, operational excellence, and customer intimacy.

2. Literature review

2.1 Defining CI

CI is a current topic in the business world today. Hence, workshops, seminars, training courses and books have been increasing in numbers steadily since 1980. CI has been reported as one of the fastest growing disciplines in the US (SCIP, 2000; Miller, 2000; Kahaner, 1998). The concept of CI is very vague, numerous definitions of CI available in literature are imprecise and inclusive, and the expression is often used integrally with other related concepts such as a business intelligence and competitor intelligence. Practitioners and theorists have largely failed to agree on a common definition of CI. Although, consensus about some aspects of the function have been achieved, Fuld & Co., a high profile CI consulting firm, takes an

inclusive approach in defining the function of CI thus: "competitive intelligence can mean many things to many people. A research scientist sees it as a heads-up on a competitor's new R&D initiatives. A salesperson considers it as an insight on how his or her company should bid against another firm in order to win a contract. A senior manager believes intelligence to be a long-term place and its rivals" (Fuld & Co, 2002).

The Society for Competitive Intelligence Professionals (SCIP), gives a more precise definition: "A systematic and ethical program for gathering, analyzing, and managing external information that can affect your company's plans, decisions, and operations. Put it another way, CI is the process of enhancing marketplace competitiveness through a greater-yet unequivocally ethical-understanding of a firm's competitors and the competitive environment" (SCIP Web site, 2002).

CI can be defined, also, as knowledge and foreknowledge about the external operating environment. The ultimate goal of each intelligence process is to facilitate decision-making that leads to action. "Competitive intelligence is a formalized, yet continuously evolving process by which the management team assesses the evolution of its industry and the capabilities and behavior of its current and potential competitors to assist in maintaining or developing a competitive advantage. (Prescott and Gibbons, 1996).

2.2 KM definition

KM is often viewed as multidimensional and multidisciplinary concept. There are many definitions of KM in the literature, thus comparisons must be made to know the focus by each author. Some of the focuses are highlighted below.

Professor Michael Sutton (2008) of the Gore School of Business at Westminster College reported at the ICKM (International Conference on Knowledge Management) meeting in 2008 that he had assembled a library of more than 100 of them (McInerney C and Koeing M, 2009). Three definitions of KM ones are presented here. At the very beginning of the KM movement, Davenport (1994) offered the following: "knowledge management is the process of capturing, distributing, and effectively using

knowledge”. This definition has the virtue of being simple, stark, and to the point. A few years later, the Gartner Group created another definition of KM, which is perhaps the most frequently cited (Duhon, 1998): “A discipline that promotes an integrated approach to identifying, capturing, evaluating, retrieving, and sharing all of an enterprise’s information assets. These assets may include databases, documents, policies, procedures, and previously un-captured expertise and experience in individual workers”.

Finally, the definition given by Peter Drucker (1994), whom many consider as the father of KM, defines the need for this function: “Knowledge has become the key resource, for a nation’s military strength as well as for its economic strength (...) is fundamentally different from the traditional key resources of the

economist—land, labor, and even capital (...) We need systematic work on the quality of knowledge and the productivity of knowledge (...) the performance capacity, if not the survival, of any organization in the knowledge society will come increasingly to depend on those two factors”.

3. CI and KM processes

3.1 CI process

The CI process consists of the following steps: monitoring business environment (external data, information and knowledge), gathering, analyzing, filtering and disseminating intelligence that will support decision making process in order to increase competitiveness and improve position of organization.

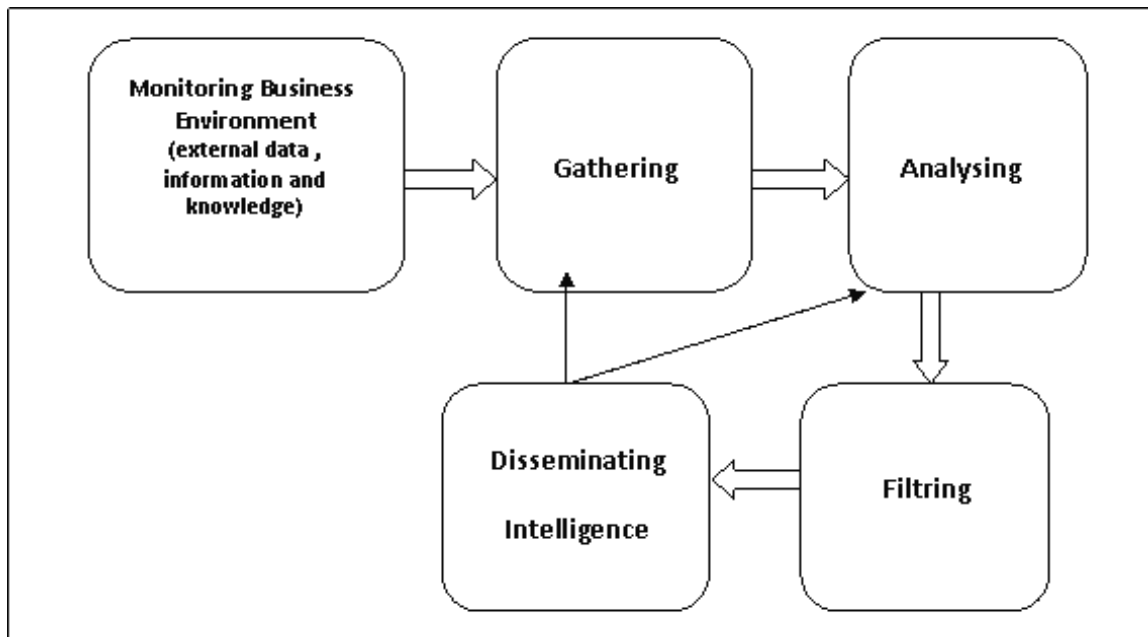


Figure 1: CI process

Many versions of the conceptualization of the CI cycle can be found in the literature. To show their similarities and differences, table 1 presents

the basics steps identified by several authors, each of whom divides the CI process into four to six phases.

Table 1: Models of CI cycle

Information Management Cycle (Cheo, 2002)	CIA (2001)	Fuld & Co, (2002)	Pirttilä (1998)	Kahner(1998)	Miller (2000)
Identification of information needs (1)	Planning and Direction (1)	Planning and Direction (1)	Definition of competitor and information needs (1)	Planning and Direction (1)	Identification on key decision makers and intelligence needs
Information acquisition (2)	Collection (2)	Secondary published information sources (2)	Systematic collection of competitive information (2)	Collection (2)	Collection (2)
		Primary source collection (3)			
Organization and storage (3)	Processing (3)		Screening analysis of collected information (3)		
	Analysis and production (4)	Analysis and production (4)		Analysis (3)	Analysis (3)
Information production and services (4)		Report and information			
Information distribution (5)	Dissemination (5)		Distribution related user groups (5)	Dissemination (5)	Dissemination (5)
Information use (6)					

The models presented in Table 1 are similar; however, some distinctive dimensions are evident. Regarding the first step, we see that, despite the different titles, each model recognizes the importance of identifying the type of intelligence/information that is needed to begin the process. Although planning should be the starting point of any process, we argue that, in the CI cycle, planning relates mainly to the identification of the intelligence needs that must be fulfilled and of the various activities and analyses that are required to fulfill such needs. Each model also includes a collection or acquisition stage as a second step. Fuld & Co. differentiates the collection of information in two parts: secondary/published and primary sources. After the collection of information, the only CI cycle that identifies a step related to the processing of information is the CIA model. In comparison to the information management cycle, the organization and storage of information is a step that is regularly overlooked by the CI community. This step is key to an effective information-related system. All CI

models presented here include an analysis stage. Although it is not part of the information management model, this stage is an integral part of any intelligence process. Analysis transforms information into intelligence using a variety of techniques. Pirttilä's model, which omits the organization and storage step, includes "screening" in the analysis step.

3.2 KM processes

We earlier defined knowledge management as performing the activities involved in discovering, capturing, sharing, and applying knowledge so as to enhance, a cost-effective fashion, the impact of knowledge on the unit's goal achievement. Thus, knowledge management relies on four main kinds of KM processes. As shown in Figure 2, these include the processes through which knowledge is discovered or captured. It also includes the processes through which this knowledge is shared and applied. These four KM processes are supported by a set of seven KM

sub-processes, as shown above with one Sub-process — socialization— supporting two KM processes (discovery and sharing). Of the seven KM sub-processes, four are based on Nonaka (1994). Focusing on the ways in which knowledge is converted through the interaction between tacit and explicit knowledge, Nonaka identified four ways of managing knowledge:

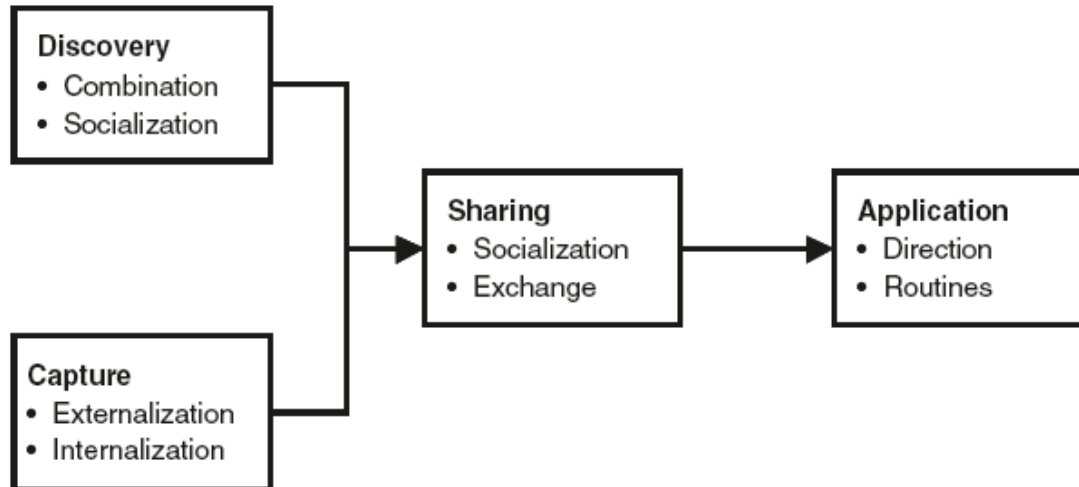


Figure 2: KM processes

4. CI and KM benefits for the organization

4.1 CI, which advantages for the organization?

According to Prescott and Bhardwaj (1995), CI practitioners believe CI programs provide the following benefits:

- Influencing actions of decision-makers
- Improving early warning signals
- Identifying new opportunities
- Exploiting competitor vulnerabilities
- Sharing of ideas
- Better serving the company's customers

Prescott and Bhardwaj (1995) argue that these benefits are directly identifiable, although there are no quantitative measures to support this. An improved market position and improved revenue/profits are not directly identifiable since they are “uncertain effects”. These benefits fall into the category of bottom-line measures, which are usually the most commonly requested. Simon and Blixt have tried to measure these uncertain effects. They describe the relevant issues to be measured when considering uncertain effects or monetary benefits of a CI program as:

socialization, externalization, internalization, and combination. The other three KM sub-processes — exchange, direction, and routines — are largely based on Grant (1996) and Nahapiet and Ghoshal (1998).

- Quality, relevance, timeliness, and accuracy of intelligence
- Accuracy of data in analysis
- Increasing number of clients and additional business from current clients
- Business success and performance measured by industry benchmarking

CI reveals the state of business, exposes the unknown, and shows how to tackle current market conditions. It helps recognize risks and new market opportunities earlier and act faster. Good CI delivers often surprising truths, gives a head-up on what's coming, and equips the organization with the knowledge to outmaneuver the toughest rivals. Using the accurate and objective knowledge, good CI provides - particularly during unpredictable and turbulent time - can gain better control over their business in the future.

4.2 Benefits of KM

According to modern approaches, KM is already considered as a key factor in the organization's performance and, the best resource and the only sustainable competitive advantage to individuals and organizations, because it deals with different resources that can aid decision makers in many ways (Keen, 1991). Most commentators writing on the subject highlight the primary purpose of KM as efficiency and productivity achieved through the reuse and sharing of experience and know-how. Often overlooked is the potentially important goal of promoting quality of work

product and practitioner training that can be shown to increase the value of the client service.

KM can serve a wide variety of purposes. According to Petter Gottschalk, of the Department of Technology Management at the Norwegian School of Management, "effective knowledge management pays off in fewer mistakes, less redundancy, quicker problem solving, better decision making, reduced research development costs, increased worker independence, enhanced customer relations, and improved service".

Table 2: Benefits and challenges of KM

Benefits of KM	Challenges of KM
<ul style="list-style-type: none"> - Fosters innovation - Improves efficiency - Improves coordination and efforts - Enhances customers and employee satisfaction - Improve response time - Rewards employees - Improves market time - Responsive to market changes - Reduces costs - Encourages free flow of ideas - Connects geographically dispersed people (e.g., customers, employees, suppliers, and consultants) - Foster collaboration - Improves information access - Expertise localization 	<ul style="list-style-type: none"> - Requires full employee participation - Requires constant updating - Must sort useful knowledge from useless information - KM projects are not always successful in term of increased profit margins and reduced costs

5. KM and CI success factors

5.1 Key success factors of CI

According to Stanat (1990) no single system architecture can be found appropriate for developing a successful intelligence program because of cultural and structural issues. CI

process is likely to be unique in each organization. Therefore, there is rarely a similarity between successful CI processes. Despite, some general success factors and guidelines can be mentioned. In fact, CI process should reflect the organizational culture,

available resources and goals of each specific company (Gilad, 1985; Fuld, 1997).

5.1.1 Top management support and participation

The support from top management is considered the most important success factor for CI implementation success. Intelligence operations should have full senior management commitment and an operating mandate from the top. An intelligence strategy must have full support at board level if it is to succeed (Bord, 1997; Kahaner, 1996). It is also essential to make sure top management has the available intelligence at their fingers (Hering, 2000).

5.1.2 Identifying CI needs

The company's management must view the CI as a key resource for better decision-making. This means identifying the impending threats, becoming important and alert management to new business opportunities.

5.1.3 CI culture/ awareness

For a company to use its efforts successfully, an appropriate CI culture that support open communication, team spirit, information and knowledge sharing and focus on shared goals, is necessary (Olivier et al., 2003). According to Calof (2000) the attitudes of people when they don't trust CI, and are unwilling to share information is considered a main barrier that prevent firms from effectively gathering and using CI. The organization should develop programs that make people want to share their knowledge and acquire new one (Iivonen and Huotari, 2000; Den Hertog and Hnizeng, 2000).

5.1.4 CI tools and resources

A good CI functions must also have adequate resources to deliver the required judgments, insights, and analysis that support the management's decisions. Asking one or more individuals to "take responsibility for the company's CI" requires providing them with the budget and resources for professional development, outsourced research, and

technology tools to implement and succeed with a CI process.

5.2 Key success factors of KM

KM covers a wide range of functionalities and support different sets of activities. Some factors are considered critical for the successful implementation.

However, there exist different views among practitioners and researchers on how a KM program can be designed and implemented in organizations. Several studies have proposed several key variables for successful implementation.

6. KM and CI to achieve competitive advantage

6.1 What is meant by competitive advantage?

Concept of competitive advantage has a long tradition in the strategic management literature. Ansoff (1965) defined it thusly: "(...) (To) isolate characteristics of unique opportunities within the field defined by the product-market scope and the growth vector. This is the competitive advantage. It seeks to identify particular properties of individual product markets which will give the firm a strong competitive position".

Table 3: Success factors of KM

RESEARCHER	SUCCESS FACTOR FOR USING KNOWLEDGE MANAGEMENT
Kuan yen wong (2005)	Senior management support, culture, information technology, strategy and goals, measures, organizational infrastructure, activities and processes, motivational support, resources, education, human resources management
Mathi (2004)	Knowledge-based organizations, culture strategy, systems and information technology infrastructure, systematic and effective process, measures.
Martins et al. (2003)	Organisational culture, motivation and skills, senior management, structures and process, information technology
Moffett et al. (2003)	A friendly organizational culture, senior management leadership and commitment, employee involvement, employee training, trustworthy teamwork, employee empowerment, information system infrastructure, knowledge structure
Reyan and Prybutok (2001)	An open organizational culture, senior management leadership and commitment, employee involvement, teamwork, information system infrastructure
Devenport et al. (1998)	Technology infrastructure, organizational infrastructure, balance of flexibility, evolution and cost-of- accessibility to knowledge, shared knowledge, knowledge friendly culture, motivated workers who develop, share and use of knowledge.
Hospital and Fusion (1997)	Management factors, coordination, control, leadership and measures; factors related resource : knowledge, people, financial and non-financial resources , environmental factors : competition, markets, time pressures, economic and government situation.

NNN South (1981) defined competitive advantage as the "philosophy of choosing only those competitive arenas where victories are clearly achievable". Porter (1985) states "competitive advantage grows fundamentally out of value a firm is able to create for its buyers that exceeds the firm's cost of creating it." He argued that a firm's ability to outperform its competitors lay in its ability to translate its competitive strategy into a competitive advantage. Competitive strategy entails positioning the firm favorably in an industry relative to competitors. He confirmed that there are, in general, only two possible competitive advantages a firm may possess, a cost advantage or a differentiation advantage.

Others, particularly proponents of the resource-based view of the firm (Barney, 1991; Conner, 1991), have extended the definition to include a wider range of possible advantages such as physical capital (Williamson, 1975), human capital (Becker, 1964), technological opportunities and learning (Teece, 1980; 1982; 1986), and organizational capital (Tomer, 1987).

6.2 Synergy between CI and KM to obtain competitive advantage

Knowledge management (KM) is the process through which organizational performance is improved through better management of corporate knowledge. Its goal is to improve the management of internal knowledge processes so that all information required for corporate decisions can be made available and efficiently used. Competitive intelligence (CI) is a process for gathering usable knowledge about the external business environment and turning it into the intelligence required for tactical or strategic decisions. Both KM and CI systems are designed to enhance the information resources of an enterprise, but often target different information types and sources. While CI is concerned with gathering information from the external environment to enable the company to gain competitive advantage (Williams, 2002), most investigation into KM has focused on capturing the knowledge stored within the minds of individual employees (Nidumolu, Subramani, & Aldrich, 2001). Bagshaw (2000), Johnson (2000), Rubinfeld (2001), and Williams (2002) all focus on the use of KM for collecting,

managing, and sharing internally generated knowledge.

The combination of effective KM and appropriate CI provide the right mix of the right

information to the right decision maker at the right time. Certainly, these two fields are starting to blend into the same melting pot. However, each field has some unique qualities that differentiate it from the other.

Table 4: A comparison between knowledge management and competitive intelligence

Knowledge Management	Competitive Intelligence
<ul style="list-style-type: none"> -Internal -Reactive - long- term perspective -Technology-based -Dependent on employee willingness to contribute - knowledge, information 	<ul style="list-style-type: none"> -External -Proactive - short-term and long-term perspective -Source-based -Environment driven (Political, Economical, Sociological and Technological) Information, data, knowledge

The fields of CI and KM have a number of differences as shown on in the table above, but potential relation can exist if we instinctively regard them in terms of applying enterprise knowledge of the internal and external environment for long-term competitive advantage. The goal of both disciplines is to evaluate the business decisions, locate and deliver appropriate knowledge from within and without the organization and, in the end help to give it meaning and help decision makers.

According to Bensoussan (1996), the keys to a company's future are not found in forecasts, predictions or media gurus, but through patiently, carefully and strategically turning a

company's knowledge into competitive intelligence". She identifies the components of CI as available data and expert judgment, and calls for intelligence to be "future-oriented, accurate, objective, relevant, useful, and timely". In other words, each drives the other. As shown earlier in table 3, although there are significant differences in the focus and activities of KM and CI, they "have similar goals and are natural extensions of one another (e.g., manage information overload and timely/targeted information delivery, provide tools for data analysis, identify subject matter experts, enable collaboration)" (Meta Group, 1998). Davenport (1999) even goes so far as to take the stance that CI can be viewed as a branch or subset of KM.

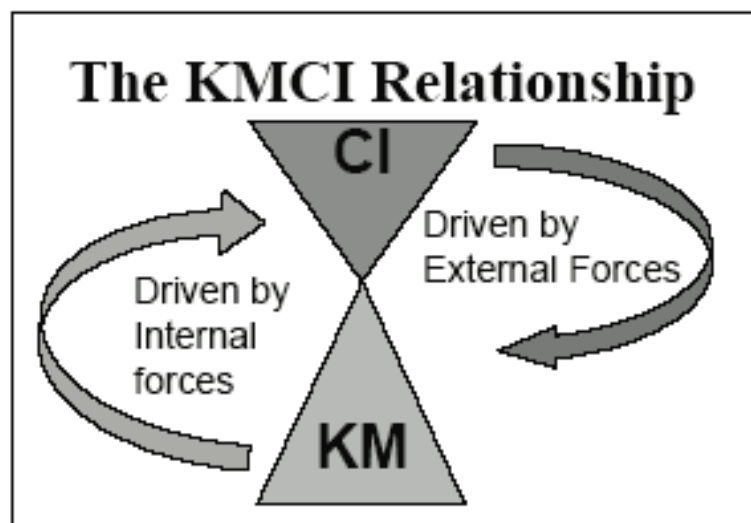


Figure 3: The KMCI relationship. (source: Katherine Shelfer, Drexel University, 2004)

The study conducted by Breeding (2000) at Shell Services International (SII) shows how CI

activities at SSI have been impacted by the extensive use of KM. It is demonstrated that

using the CI/ KM system gives more time to higher value-added tasks such as simulation, strategy.

7. Conclusion

As discussed above, KM and CI are distinct by being both complementary and synergistic. At their core, both fields are concerned with gaining competitive advantage from better applications of information or knowledge. Knowledge may perhaps be the only remaining and one of the most critical sources of competitive advantage available to an organization in the 21st century. This is true; more so, as previously available traditional resources may no longer offer any significant competitive advantage. To remain competitive, organizations must create and use new knowledge. However, the current practices in knowledge acquisition, utilization, and management are mostly limited to capturing, recycling, and deploying the existing information, and making it available on a technology platform. KM and CI are in this regard two important strategies or practices through which organizations could use effective knowledge to improve organizational effectiveness, improve productivity, improve decision making, and especially, obtain a sustainable competitive advantage.

Even if it is difficult to simplify the relationship between CI and KM (Johnson, 1999), it is obvious that the two approaches complement each other. KM and CI are two parts of the same whole because both are designed to apply enterprise knowledge of the internal and external environment for long term competitive advantage. The synergy between KM and CI indicates that greater convergence between the two approaches (Parker and Nitse, 2011).

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