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Are knowledge workers a source of competitive advantage?

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Abstract

The competitive advantage for a company is that distinctive element which, in the long term, allows it to make a profit and stay ahead of its competitors. Whether it is of an operational nature, such as a competitive price, acceptable deadlines or a vast geographical territory, or of a strategic nature, such as a capacity for innovation, development and training of specific human capital that generates added value, competitive advantage remains one of the key vectors of strategic maneuvers. Strategic human resource management approaches that value the centrality of intangible resources are proliferating, including their holders, who in the age of the intangible are called knowledge workers. We outline the main contributions of the resource-based approach, the skills-based approach, the knowledge-based approach, the intellectual capital approach and finally the human capital approach, which emphasizes the role of knowledge workers in building a sustainable competitive advantage, which is not substitutable and difficult to imitate, and which gives the company a favorable competitive position in the market and provides it with a more or less long-term income.

Keywords: Knowledge workers, competitive advantage, resource-based approach, skill-based approach, knowledge-based approach, intellectual capital approach, human capital approach.

Introduction

In an economy where an important part of the GDP comes from intangible resources, whether they are held by systems or by knowledge workers, the frantic race of companies towards distinction is closely linked to the valorization and good management of intellectual capital. Indeed, in the age of the immaterial, both knowledge and its holders are valued by organizations that seek to retain and hire them in order to benefit from their knowledge potential (Barney, 1986; 1991; Grant, 1991; Winter, 1987; Nonaka, 1995; Drucker, 1999).

Knowledge workers not only possess knowledge, but through the deployment and handling of this knowledge, they participate in enriching and sustaining the foundations of competitive advantage. Theoretical approaches differ, however, as to the origin of this distinctive element. Some are based on resources and skills, others on knowledge, its management system or its holders. We are therefore trying to better define the relationship between knowledge workers and competitive advantage and to answer our research question: "To what extent do knowledge workers constitute a source of competitive advantage for the company that employs them?"

The return to internal resources as an explanatory mechanism for strategic maneuvers and as a driver of corporate performance has become so popular that it has become the theoretical foundation of several approaches to strategic management (Wernerfelt, 1984; Barney, 1986; Rumelt, 1987). This could in no way overshadow the importance of external diagnosis, which combined with internal analysis of the company would help the company to make better strategic choices.

From the resource approach, through the skills approach, to the intellectual capital approach and the human capital approach, the unit of analysis will change as well as the basis of competitive advantage (Spender, 1996; Nonaka, 1999; Grant, 1991; Hamel and Prahalad, 1990; Ulrich, 1998; Prahalad and Hamel, 1990; Edvinson and Malone, 1999; Snell et al, 1999).

Human capital theory appears to provide a conceptual framework that provides a clear

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theoretical explanation of the basis for the competitive base provided by knowledge workers and justifies the legitimacy of their valuation and centrality in the knowledge economy.

I-Knowledge workers and competitive advantage: The contribution of the resource-based approach

In revolutionizing Porter, who was interested in the analysis of the external environment, the resource-based approach also focused on the internal analysis of the company in order to identify the key success factors for strategic orientations. Thus, the competitive advantage depends on the resources available to the company and not on the identification of the most attractive niches. Competitive advantage is based on a superior valuation of the resources possessed. These resources are of a tangible and non-tangible nature according to Koenig (1999), physical and human according to Penrose (1959), physical, organizational and human according to Barney (1991), financial, physical, technological, organizational, human and reputational according to Grant (1991), or constitute assets (physical and financial) and competences (individual and collective) according to Koenig (1999). For the firm's internal resources to form the basis of competitive advantage, they should respect the order of scarcity, non-imitativeness, non-substitution, viability and appropriation. Better still, it is the interaction between physical and human resources and their clever combination that impacts the quality of the products and services offered and lies behind the performance and growth of the organization according to Penrose (1959).

Even if the proponents of the resource approach do not focus on knowledge-based workers and their role in the foundation of the organization's competitive advantage and consider resources as a unit of analysis, no one could hide the fact that resources come from the intelligence, creativity, feedback, skills and knowledge of workers. If the term "knowledge worker" was first used by Drucker (1999) in his book "The Future of Management", signaling the advent of the immaterial era, work was always the fruit of human knowledge in interaction with its environment. We believe that knowledge workers, even if they are not recognized by the resource-based approach as the primary factors of competitive advantage, are at least the bearers and holders of certain strategic resources, and it is through the astute combination of tangible and intangible resources that they can facilitate or inhibit the process of value creation in the company. Hence, the lightning enthusiasm, at the beginning of the 80's, for concepts such as culture, knowledge and skills.

II- Knowledge workers and competitive advantage: The contribution of the skills approach

Porter's strategic analysis focuses on the company's activities in relation to the environment, while the resource-based approach focuses on internal resources that are rare, non-substitutable, difficult to imitate, viable and appropriate as a vector of success. The competency-based approach considers the company as a portfolio of competencies capable of implementing, developing, sustaining, renewing and evolving a set of resources that allow the company to achieve its objectives according to Barney (1991).

Indeed, a divisional structure by product could limit the faculties of innovation and it would be better to replace it

by a global approach by key competences capable of deploying specific competences generating economic rents. By nurturing core competencies and key products, the company can create or revolutionize markets with innovative products. Thus, the company's competitiveness stems from a superior ability to build core competencies that are useful for markets faster and cheaper than the competition. A core competency allows to provide applications to different markets, increases the perceived value of products and customers. It is difficult to imitate and was the result of the collective learning of the organization according to Prahalad and Hamel (1990). Over time, the company should be able to maintain and evolve its competencies according to strategic imperatives in order to establish a competitive advantage.

The competency-based approach recognizes core competencies as the source of competitive advantage. These core competencies are really only the result of the collective learning of the organization. The ingenuity of a knowledge worker could not be codified and dictated if he or she did not show real commitment. Double-loop learning could only occur with the consent of all parties involved. While knowledge workers are not directly the foundation of competitive advantage for this approach, they are arguably as important a key factor as resources as inputs into the process of creating and renewing key competencies for competitive advantage.

III- Knowledge workers and competitive advantage: The contribution of the knowledge approach

The proliferation of definitions and typologies of knowledge testifies to its complexity according to Schulz (1983). All processed data that have meaning and value for the user are classified as knowledge. It can be of an individual or organizational nature, or have explicit or tacit dimensions according to Nonaka and Takeuchi (1995).

Operational procedures, manuals, documentation, information systems and databases form explicit organizational knowledge, whereas the knowledge and skills of individuals that are easily taught and written down constitute explicit individual knowledge. Explicit knowledge, whether individual or organizational, is codifiable and transferable in a formal way throughout the company, unless it expresses the "unspoken" of those who formalized it.

When it comes to tacit knowledge, organizational knowledge resides in the thinking patterns of top management, routines and organizational values according to Grant (1991), and individual knowledge resides in technical and operational skills, mental and thinking patterns deeply embedded in the commitment and traditions of individuals and groups, know-how, skills and talents of individuals according to Nonaka (1999) and Grant (1991). This tacit knowledge is difficult to codify and articulate and is often a source of innovation and the creation of breakthrough strategies.

Whether they are tacit or explicit, individual or organizational, it is their interaction that allows the creation of strategic knowledge, often a source of competitive advantage. Subsequently, this knowledge will replace management in the making of strategic decisions. It is essential to note the importance of tacit knowledge as a know-how, an expertise, a particular way of doing to enhance the routing towards the competitive advantage

which, in an evolving system produces idiosyncratic "services" and confers to the company its consubstantial character. The usefulness of knowledge, especially tacit knowledge, in the creation of a sustainable competitive advantage was highlighted by the economist Penrose in 1959 when she pointed out that the importance is not to have tangible and intangible resources but rather the clever combination between the two that would allow the company to distinguish itself from its competitors according to Quinn (1992) and Drucker (2000).

If the resource approach postulates that the clever combination of resources according to the strategic objectives of the firm represents the basis of competitive advantage, then the knowledge approach chooses knowledge as a strategic resource that most satisfies the criteria of scarcity, value, non-substitutability, and non-imitativeness according to Grant (1991), Nonaka and Takeuchi (1995) and Spender (1996).

If the competency-based approach puts the firm's core competencies at the heart of the foundation of competitive advantage, then the knowledge-based approach considers knowledge as a personal interpretation of information based on individual experiences, abilities and skills, and its usefulness varies according to the context, according to Molier (2000), Bollinger and Smith (2001). Key competencies may not be useful to such a decision-maker, who considers them obsolete in a particular context, in the face of a certain supplier's requirement, or unable to cope with any contingency. If the key resources and competencies remain in the company after the departure of the knowledge workers who built them and if it could benefit from them, then knowledge remains inseparable from the carrier subject and represents its capacity acquired over time to link information and give it a meaning. However, the knowledge approach does not directly recognize the contribution of knowledge workers in the foundation of competitive advantage and considers that the real basis of competitive advantage remains knowledge, thus recognizing the bearer of knowledge and the entire organizational system that favors the exchange, development and sharing of explicit and implicit knowledge and that translates into a "knowledge management" project according to Spender (1996) and Nonaka (1999). According to Bûk (1999), Knowledge Management refers to "the capitalization of knowledge which is the result of a strategic will of collective, transverse, permanent and multidimensional work which must result in the creation of an added value specific to each organization and which finds its genesis by the valorization and the generalization of the experimentation of each member of the organization".

Finally, if the knowledge approach highlights the importance of the knowledge resource but does not value the human resources that carry this knowledge, then we migrate to the intellectual capital approach that responds to this need to value knowledge workers as human capital responsible for the generation of sustainable competitive advantage while interacting with social capital and structural capital.

VI- Knowledge workers and competitive advantage: The contribution of the intellectual capital approach

Indeed, if the knowledge approach has valued knowledge as a strategic resource without highlighting the relationship

that could exist between the bearer of knowledge and competitive advantage, then the intellectual capital approach has valued all intangible resources, including knowledge holders, and considers them today as the foundation of sustainable competitive advantage.

The proliferation of terminologies addressed to the intellectual capital approach could in no way hide the research craze and the interest of researchers in the issue finding quite solid and holistic theoretical underpinnings. We need only cite as terminology of intellectual capital, organizational capital by Ulrich (1998), distinctive competencies by Grant (1991), critical competencies by Prahalad and Hamel (1990) and organizational competencies by Hamel and Prahalad (1990).

Intellectual capital is thus defined by Edvinson and Malone (1999) as "the sum of structural, social and human capital" as described below:

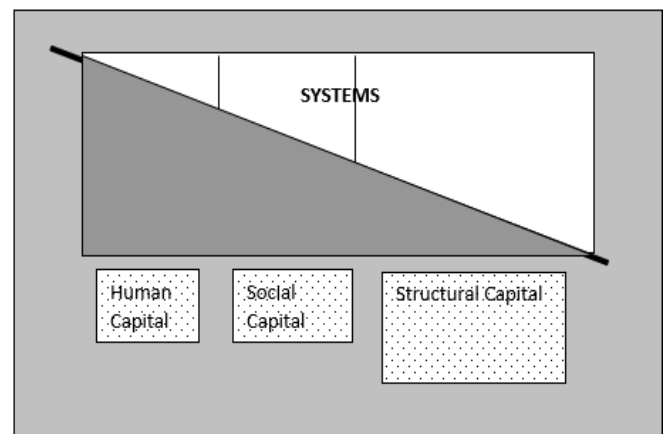


Fig. 1 : Intellectual Capital Source : Snell and al (1999).

According to Snell and al (1999), structural capital includes "the investments made by the firm in systems, tools and operating methods to facilitate the circulation of knowledge within the firm and outside. It includes, on the one hand, innovation capital, which is the capacity to renew and innovate and which appears in the form of intellectual property and the results of research on products. On the other hand, process capital, which includes operating processes that improve the efficiency of the production of a good or service, such as databases and information systems. Structural capital thus allows knowledge to be formalized and codified in databases, patents, contracts, licenses, property rights, computer software and organizational policies".

Social capital represents, according to Snell and al (1999), "the flows of knowledge carried by individuals and constituted in networks. Social capital is about the value of the relationships in an organization with the people with whom it operates, such as customer commitment, organizational reputation, relationships with suppliers, and all other partners in the organization. Social capital plays a key role in the transmission and codification of tacit knowledge". Human capital includes, according to Snell and al (1999), "all the knowledge and skills of employees such as expertise, individual abilities, knowledge, talents, experiences, the quality of leadership of managers and their entrepreneurial and managerial capacity".

"The more we move from human capital to social capital, then to structural capital, the more the knowledge base becomes less rooted in individuals and more in the

organization's information systems and technology", (Snell and al., 1999). The proponents of the intellectual capital theory position themselves in relation to a logic of capitalization of organizational knowledge through information systems, expressing themselves as follows: "If human capital translates the knowledge of individuals and social capital describes the knowledge flows associated with networks, organizational capital represents the knowledge that remains in the organization when individuals leave. Thus, competitive advantage will accrue to firms that are able to exploit these new strategic opportunities by implementing knowledge-based strategies", Snell and al (1999). It is quite reasonable to share the position of Snell and al (1999) expressing the need for organizations to retain and leverage tacit individual and organizational knowledge by transforming it into explicit individual and organizational knowledge through the development of databases, patents and licenses. However, it should be noted that the origin of the articulation and codification of the skills of knowledge workers, the implementation of their skills of imagination and intuition and subsequently the creation of strategic resources is the intelligence of men. "Human capital then regains an undeniable importance and is strongly embedded in knowledge workers and cannot be transmitted or owned by companies," (Kahia, 2012). This intangible asset represents a source of creativity, innovation and strategic renewal and derives its importance from the synergy between the intelligence and dynamics of an organization in a constantly changing environment in the sense of Bontis and Fitz-Enz (2002).

V- Knowledge workers and competitive advantage: The contribution of human capital theory

Human capital is considered a vital particle in intellectual capital according to Sveiby (1997), Edverson and Malone (1999). In order to answer our problem and to try to find clarifications on the possible link between knowledge workers and the constitution of competitive advantage, we position ourselves in relation to the research path that emphasizes the importance of human capital by considering knowledge capitalization as an intangible asset that is

quickly resigned and will no longer be sufficient to guarantee a sustainable competitive advantage. On the other hand, focusing on the knowledge workers who are the bearers of strategic knowledge and skills will lead to the realization of a competitive advantage through the ability of knowledge workers to create new solutions and formulate new combinations of knowledge according to Kanter (1992).

The company's handling and deployment of the intelligence and creativity of knowledge workers could only be partial if they decide to leave for another employer, create their own projects or even refrain for one reason or another from serving the organization through the dynamics of their learning. There is then an urgent call to put knowledge workers back at the center of the organization and no longer consider them as a cost to be minimized (Ulrich, 1998; Kanter, 1992). The need then calls for the stimulation of the motivation of knowledge workers to share their knowledge, the development of their skills and their retention in the company, according to Ulrich (1998) who emphasizes that "intellectual capital is a multiplicative function of competence and commitment".

The distinctive value of human capital is defined as "the set of skills, knowledge and experience of human resources that are unique, non-substitutable and specific to an organization and that are costly to reproduce", (Carmeli and Schaubroeck, 2005).

Some proponents of human capital theory, such as Galunic and Anderson (2000), Lepak and Snell (1999), distinguish two types of human capital investment. The first investment is specific and is linked to the firm, for example, know-how linked to a process developed by the firm. The second investment is generic and relates to the individual, for example a general education that can be valued in another company. The general human capital is usually evaluated by the diploma and the professional experience on the labor market and can be transferred from one company to another whereas the specific human capital is non-transferable because it is linked to specific skills to the company. These two aspects of human capital are represented in the figure below:

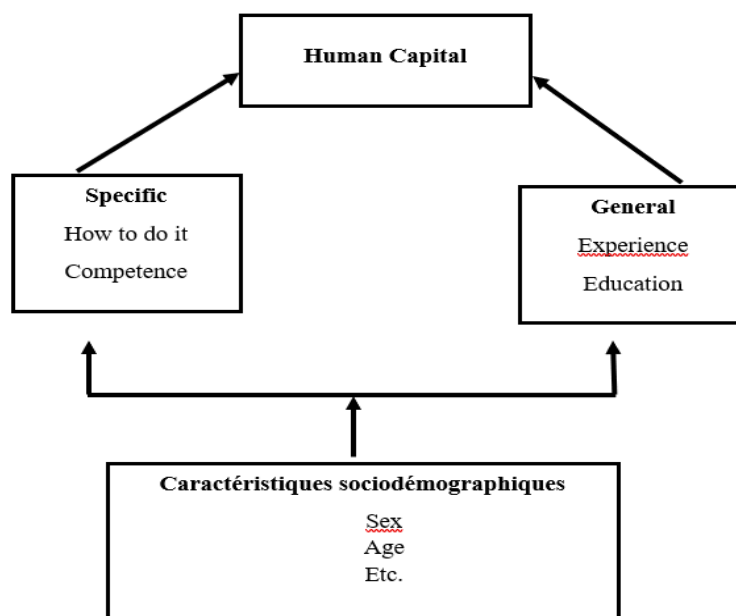


Fig. 2 : Human capital Source : Translated from Madsen and al (2003).

Human capital and the way it is managed play a fundamental role in the success of organizations and constitute a crucial source of their sustainable strategic advantage (Quinn, 1992; Régnier, 1995; Drucker, 1998; Pfeffer, 1998; Lado and Wilson, 1994; Hamel and Prahalad, 1990). For example, in-house development and training are said to be at the origin of the production of human capital that is specific and unique to the company and a source of competitive advantage (Klein et al, 1978; Mahoney and Pandian, 1992; Hatch and Dyer, 2004). For Balthazar, Nolin and Turcot (2009), the efficient management of human capital generates profits and is directly linked to the performance of the company.

Conclusion

The sustainability of competitive advantage has been proclaimed in favor of the qualitative aspect. Authors such as Hitt and al (2000), Klein, Crawford and Alchian (1978), Lepak and Snell (1999) assert that competitive advantage is acquired through the exploitation of core competence related to the company's business. Human capital is more valuable and difficult to imitate when it is specific to the organization and remains in its original environment. Hence, "The 'cream of the crop' is then those candidates with skills, attitudes and competencies that contribute to the increase in the value of the company's specific human capital", according to Hatch and Dyer (2004). For their part, Carmeli and Schaubroeck (2005) mention that a strategic use of these competencies positively influences the organizational results of business organizations in terms of service and financial performance.

Maintaining and developing specific human capital allows the firm to maintain a competitive advantage that is not only inimitable or very difficult to imitate but also non-substitutable so as to prevent rival firms from replicating or profiting from it, (Hitt and al 2005; Hatch and Dyer, 2004; Kaplan and Norton, 2005; Balthazar and al, 2009). The challenge remains how to manage specific human capital through organizational actions that are congruent with the evolving nature of this intangible asset and with a view to sustaining the added value resulting from the interaction between learning dynamics, knowledge management systems and its holders.

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