

Factors explaining knowledge management emergence : environmental, technological and organizational transformations.

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Introduction.

We have witnessed to deep economy transformations since the middle of the eighties. Companies faced environmental shocks with globalisation of trade, impact of information and communication technologies, and transformation of organizational frontiers. Companies were obliged to restructure their organization, to put into question the way they manage, and to change their competitive behaviour. The birth of new organizational forms comes from the resource-based view of the firm (Wernerfelt, 1984 ; Dierickx and Cool, 1989 ; Barney, 1991 ; Amit and Schoemaker, 1993). Using this theory and the growing use of intangible resources, we can study the different forms of restructuring that were symbolized by an important alliance and acquisition phenomenon, and also by the birth of imaginary organizations. We don't study these methods, but we are interested in the consequences on partnerships. Indeed, new organizations were built around the concept of network. This notion is the convergence of the environmental, technological and organizational shifts. The links between companies through networks have changed competitive positioning towards co-competition, the mix of competition and cooperation, in which companies share resources of their own, and through the development of innovation processes with the implementation of technological and R&D partnerships. Moreover the notion of trust is responsible for a large part of the success of these cooperative agreements.

We think that these deep environmental, technological and organizational shifts are responsible for the emergence of a new form of strategic management in companies : the knowledge-based view of the firm or knowledge management.

Environment transformations.

• Globalisation of trade (phenomenon that takes its roots in the middle of the eighties) multiplies competitors and products available on the market. Organizations that want to succeed must adapt quickly to their new environment. They have to pursue technological, competitive, legal and other kinds of transformations that affect their strategy and competences (Wertheim, 1999). Hamel and Prahalad (1990, 1991) confirm this change and create technological discontinuities (Anderson andushman, 1996) which divide markets and consumers every day more.

• Deregulation of many sectors. The problem for a firm is to obtain a competitive advantage, and to keep it in front of more and more proactive competitors (Kim and Mauborgne, 2000). This environmental shifts due to several factors :

- Institutional changes that oblige companies to adapt and to conform to these new rules.

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Globalisation of trade.

We are witnessing a deep restructuring of the economy through globalisation of trade. One of the more important effects is that competition becomes global and no longer national. This promising perspective favoured foreign direct investments. The objective for firms is to obtain the critical size in order to take advantage of scale economies, to produce at low costs, and to grasp some market share. This globalisation can be symbolized as follow :

- Multiplication of competitors that lead to a multiplication of the products and services that lead to a price decrease ;
- Occidentalization of the demand ;
- Emergence of new industrialized countries that create a migration of production (Porter, 1985) ;
- Technological progresses that allow a management over the classical frontiers of a firm ;
- Development of cooperation : alliances, joint ventures and mergers/acquisitions.

Moreover, customers become more demanding. "They want discount prices, a better service, and a variety of goods increasingly fresh" (Ashkenas, 2000). Innovation has become every day more important in order to maintain a competitive advantage. Consequently, organisations must adapt to this new market, and develop a new organizational structure that is more reactive, flexible and innovative. Correlated with the information and communication technologies development, this has allowed the restructuring of firms towards new key factors of success : reactivity, flexibility and innovation.

The impact of information and communication technologies.

Environmental changes were coupled with deep technological ones. "Since the first industrial revolution, social scientists have called attention to the central role played by technological

Furthermore, these innovations highlight competences that drive a new technical order (Tushman et Nelson, 1990 ; Anderson et Tushman, 1990).

During this period, competitive environment is in the middle of a war between the old technical order and the new one. Companies follow innovation strategies because of these technological discontinuities (Kim et Mauborgne, 2000). These strategies are not directly aimed towards competitors, because a new segmentation of the market and an adaptation to customers' needs will emerge. The concept of competition has changed a lot thanks to these strategies, highlighting R&D cooperation strategies for instance (Hedberg, 1981 ; Almeida and Kogut, 1999 ; Ahuja, 2000). R&D partnerships are the basis of several kinds of cooperation modes, and also a connection between companies (Powell, Koput et Smith-Doerr, 1996). There are many reasons for cooperation : research (Hagedoorn, 1993), controlled diffusion of knowledge (Hagedoorn, 1993), creation of a new market (Hamel et Prahalad, 1991), discovering of a market segment (Starbuck, 1983), knowledge and competences transfer (Simonin, 1999). Technological complementarity and the reduction of the innovation cycle can also be alliances factors (Hagedoorn, 1993). Reductions of the innovation cycle speed up the emergence of new processes and reorganizations. Indeed, reactivity, agility and flexibility are key competences for companies that want to stay competitive in their new environment (Zaheer and Zaheer, 1997). Moreover, information and communication technologies provoked a deep change in the management process of a company. They favoured decentralization, and pulled around time and space barriers. This followed a redefinition of organizational frontiers.

Competitive changes : towards new organizational frontiers.

“Organizations, by definition, are entities with boundaries. External boundaries separate a company from its suppliers and customers and define its geographic reach. Internal boundaries separate the CEO from the clerk , the finance department and the marketing department” (Ashkenas, 2000). These limits are always useful, but their nature became more flexible, permeable, changing the core structure of organizations.

Companies no more represent a unique entity, but a unity of formal or informal relations between one or more companies according to Hamel and Prahalad (1996) : “In the machine age, the act of management took place within the boundaries of industry convention, company tradition, vested authority, national text, functional specialization, the demonstrably feasible, and the here and now. Management was by the rules, by the numbers and by the book. That was then, this is now. The boundaries are gone. The game has changed. The rule book is out-of-date”.

We are seeing a profound reorganization of work; this change is represented by more and more permeable organizational frontiers (Matusik and Hill, 1998). One of the main consequences of this reorganization is the externalisation of production and distribution means (Quinn, 1999). Thanks to this externalisation, new organizational forms appeared such as imaginary organizations (Strabuck, Nystrom and Hedberg, 1976 ; Baumard, 1999 ; Werther, 1999). These new organizations fit with environmental trends. “They are innovative firms, linking technological and managerial innovation. The goal is the capitalization of the global goods in the organization work (Baumard, 1999) are used by firms to reduce their cost structure but also to gain work more rapidly, changes market conditions of the firm took more importance (Hamel et Prahalad, 1996), companies had to grow in a partial specialization. Secondly, the saw structure in managerialisation increasingly interested in the development of organizations that could adapt quickly and exploit the changing environment (Snodgrass et Peterson, 1999) and agility in work the growing part of changing context to be a source of Hill (1998) advantage. Speed, capacity to create and change new strategies, should be the best defense against competitors (Werther, 1999).

As we already said, companies concentrated on the core of their work, implementing links with other firms and trying to follow innovation strategies. These perspectives were supported by the resource-based view of the firm.

The resource-based view of the firm.

The emergence of new organizational forms is a response to environmental and technological changes. Indeed, with the growing move of market frontiers, targets are more difficult to control. Few companies were able to create new markets, to enter rapidly in new ones, and to shift customers choices (Prahalad and Hamel, 1990). Management role was to create an organization able to diffuse products, or, better, to create new products. All this restructuring was based on the resource-based view of the firm. The objective was to understand why companies are so heterogeneous in a given environment, and to identify factors that lead to this inertia (Arrègle, 1995). Firms' development was no more based on static perspectives of classical industrial studies (Porter, 1985), but more on the development and evolution of companies' resources and competences (Wernerfelt, 1984 ; Grant, 1991; Amit et Schoemaker, 1993).

Definition.

If all companies had the same resources, they would develop and create the same products and services. Competition would focus on the price. Firms would have almost the same performance, profits, investments and problems. Moreover, this view does not take into account intangible assets that are difficult to measure and imitate, and that cannot compose the same resources. In fact, firms' resources are heterogeneous. This is, according to Peteraf (1993), the condition of this theory.

Historically, the notion of resource as we know today was developed first by Penrose (1959). Then, other authors developed a resource-based theory like Wernerfelt (1984). According to him, a resource is a tangible or intangible asset that belong to a company. Amit and Schoemaker (1993) define resources as the stock of factors available to or controlled by the

Resources.

Generally, resources are available in the company environment. If these resources are external, they can transfer from a firm to another. Nevertheless, if a company can obtain resources to imitate the competitive advantage of a firm, so the competitive advantage of the rival will only have a limited lifespan. Moreover, transfer of resources is limited by geographical proximity, imperfect information, specific resources and capacities immobility (Grant, 1991). Resources can be tangible or intangible. They can be trade adopting a patent form, or as physical or financial assets. Resources are converted into final products or services using a large unity of assets and mechanisms of other companies, like technology, information systems, trust between employees... (Amit et Schoemaker, 1993).

Competences.

Competences referred to intangible organizational processes. A competence is formed with knowledge, experience and attitude (Rolland, 2000). Competences constitute the capacity of firms to favour the use and the transformation of resources according to managerial objectives, to maintain and improve its competitive position. The difference between these two concepts is that a resource can be considered like a limited unity of assets on a market, whereas a competence cannot be limited and flowed on a market (Lmarque, 2000). Moreover, this theory affirms that firms' resources should improve performance, should be scarce and impossible to imitate, and that they will determine the long term competitive advantage (Barney, 1991). Generally, seven conditions have to be fulfilled for a resource to be considered as a key resource: value, scarcity, impossible to imitate, to substitute, to transfer, longevity, and the appropriation possibility (Amit and Schoemaker, 1993).

Strategic assets.

In their article, Amit and Schoemaker (1993) use the resource-based view of the firm coupled with industrial analysis to make strategic assets emerge. They develop this notion saying that the unity of resources and capacities that are difficult to share, imitate, scarce, and that constitute the competitive advantage are strategic assets. These assets can be technological capacities, rapid technological development cycles, access to better distribution channels, good relationships with providers or distributors, R&D capacity, reputation... Strategic assets compose a unity of competences and resources that belong to a company. They can be part of the strategic factors of an industry. These strategic assets join the notion of core competences (Hamel and Prahalad, 1990), because they go further than the resource definition. Indeed, firm competences are organizational learning, communication, commitment, and a deep desire to work through organizational frontiers (Hamel and Prahalad, 1991). Highlighting the importance of specific capacities, distinctive and core competences of a firm, the resource-based view of the firm focuses on intangible resources. Any tangible resource or asset can be, by essence, identified, bought. It means that this kind of resource can be imitated, so it is not strategic. On the contrary, for intangible resource (Grant, 1991) that belong to the unity of employees, the competitive advantage because of its competence that will scarce and difficult to imitate and by that has characteristics of the resource. Moreover, these resources can be part of a network.. In this way these kinds of competences are developed because they are organization and it is difficult to obtain them because they need a context to exist (Persais, 2001). Some of them can be considered as organizational routines because they are related with specific knowledge, a particular culture, and an **Towards a growing use of intangible resources and competences.**

Academics are changing their conception of resources. Even if Wernerfelt (1984) had already taken into account the tangible and intangible nature of resources, academics are more and more interested in studying intangible resources. These resources cannot be trade because they have an important tacit dimension, because they are the result of an organizational learning, and because they are socially embedded.

It is primordial, in this resource-based theory, to know that the capacities that allow the maintenance of a good competitive position are the same as those that allow companies to obtain, for instance, better private information. The main part of long term competitive advantages are based on information, on tacit and complex understandings, that are not easily available for individuals external to the organization (Peteraf, 1993). Through the increasing consideration of intangible resources and strategic competences, two trends emerge and take a growing importance in the literacy, following the constant development of the resource-based theory : knowledge management and the concept of network.

Among strategic skills, a large part deal with partnerships between firms, and try to explain the logic of these alliances considering their strategic support, and their positive effect on partners' performance. Competence acquisition is often presented as the reason of an alliance or a merger. Studying Penrose's (1959) work, we can see that the essence of organizational capacities are creation and integration of knowledge (Grant, 1996 ; Meso and Smith, 2000). Knowledge is increasingly perceived as the most important resource of firms. Academics highlight the role of tacit knowledge, because it allows the maintenance of a competitive advantage (Grant, 1996), and because it is linked with organizational learning and innovation (Nonaka and Takeuchi, 1995). Therefore, knowledge can be considered as the greatest strategic resource of a company, and the dexterity to obtain it, share it, and use it, is the best capacity to maintain a competitive advantage (Cohen et Levinthal, 1990). Company success is dependant on the development, integration and exploitation capacity of real flows of knowledge (Wright, van Wijk and Bouty, 1995). Therefore, a knowledge-based view of the firm has emerged (Grant, 1996).

Academics were also interested in the acquisition of resources that allow the obtention of a competitive advantage. In this way, the concept of alliances, partnerships, mergers developed. Indeed, these strategies appeared as interesting means to access specific resources.

obtain information, skills and knowledge, or more simply to ease internal and external communication means.

Alliances and partnerships.

“We define strategic alliances as arrangements between two or more independent companies that choose to carry out a project or to operate in a specific business area by coordinating the necessary skills and resources jointly rather than either operating on their own or merging their operations” (Dussauge, Garrette and Mitchell, 2000).

An alliance is commonly defined as any voluntarily initiated cooperative agreement between firms that involves exchange, sharing, or co-development, and it can include contributions by partners of capital, technology, or firm-specific assets (Gulati et Singh, 1998).

Mergers and acquisitions.

Mergers constitute a peaceful way to group, that can correspond to a partnership. They are characterized by an exchange of stocks. Acquisitions are an hostile mode because they are brought about by buying stocks of the targeted company.

Whatever the way of grouping and taking into account the differences between these means, we will treat this kind of grouping like other means. Indeed, we are interested in the way these companies networks work and by their strategic impact, and not by the difference between the different ways.

Imaginary organization.

It is an entity that does not have an individual existence, but is composed by many contractual and informal relationships (Baumard, 1999).

Characteristics of alliances and networks structures.

Network architecture.

We define a network structure as a unity of relations, formal or informal, that link entities together. The notion of network consist of a social relation between actors (Seufert, von Krogh and Bach, 1999). In most cases networks are conceptualised like an hybrid organizational form between market and hierarchy. It includes companies that realized partnerships or acquisitions, imaginary organizations whose structure is based on the concept of network, and companies that feed some networks in their structure like communities of practice.

The implementation of a new network comes with a global change in a company, and affects the structure of an industry. Indeed, as soon as a firm develops a new market, competitors follow in order not to lose an opportunity.

In order to illustrate the implications of an industrial analysis correlated with a network perspective, we consider that there are three kinds of relational characteristics: network structure (global relations), network members (composition, identities) and agreement terms (norms, rules) supportive actions. Reputation, trust, tacit collusion, and a relative absence of companies that thrive amid the new realities of global competition, rapidly emerging technologies, and changing markets are characterized, by permeable boundaries along all fronts (Ashkenas, 2000). “Hybrid forms represent a modern version of a centuries-old means of allocating goods and services, a method that Polanyi termed “generalized reciprocity”. In

How does it work ?

Taking care of a network requires the use of efficient management mechanisms, the development of knowledge between firms sharing routines, and changes to maximize positive effects of the partnership, taking care in the same time of partners needs (Dyer and Singh, 1998). Companies try to be more competitive and flexible through the reorganization of the nature of production and the development of new methods of competitive organizing (Powell, 1987). “The extent of the anticipated interdependence between partners at the time they form an alliance can vary substantially and depends on the tasks included and the likely division of labor in the partnership, all of which are a function of the strategic rationale for the alliance” (Gulati and Singh, 1998). According to March and Simon (1958), hierarchical structures of control were considered as key means to coordinate tasks because decision making became easy. It fits with the idea of Gulati and Singh (1998 / 1999) that assert that hierarchical controls are more than simple mechanisms devoted to control opportunism and helping partners ; they develop an organizational context that determines rules and creates an administrative structure where partnership can take place. “This architecture provides alliance partners with the ability to coordinate tasks and responsibilities between themselves in a way that meets their own needs for value creation and allays their particular concern about the alliance” (Gulati and Singh, 1998).

Network formation.

Conditions.

Doz, Olk and Smith Ring studies (2000) suggest that the process of networks formation can be dominated by three initial conditions : environmental changes that lead to an interdependence, presence and identification of common interests among potential members, or intervention of a triggering entity. Various streams of research including power dependence (Pfeffer and Salancik, 1978 ; Yan and Gray, 1994), coévolution (Koza and Lewin, 1998), and foreign market entry (Porter, 1990) emphasize the impact of environmental changes on a variety of forms of interfirm collaboration.

According to Mohr and Spekman (1994), success factors for a partnership are partner commitment, coordination, trust, communication and participation quality, and technical conflict resolution.

Some companies are very well adapted and are used to cooperative agreements. They developed systems, processes, individuals, that allow the emergence of new alliances (Gulati, 1999). In this perspective, some companies have created specific organizational entities for the management of strategic alliances, and also standardized processes to make easier the creation of new ones (Gulati, 1999).

Managers role in the implementation of a partnership process is very important, because they are responsible for the new structure. Furthermore, with a slow growth, markets globalization and a speeding technological change, managers take more risk. Consequently, their role is capital in the grouping process of firms.

Institutional links.

Alliance formation is not easy. There are many political, legal and organizational barriers to pass (Gulati, 1999). According to institutional theory, survival opportunities of an organization are improved significantly by conformity demonstrations to rules, norms and social aspects of the institutional environment (Meyer and Rowan, 1977). Institutional theorists have proposed that an organization is able to survive if it obtains legitimacy, social support and an approbation of external actors (Meyer and Rowan, 1977 ; Baum and Oliver, 1991). Organization legitimacy was also studied by Oliver (1991). He asserts that resources access is easier, and that there is no question concerning firms' obligations. Moreover, institutional theory indicates that an organization that develops relations with institutions and follow institutional prescriptions, can survive easily, have a greater stability, allowing a better access to resources (Meyer and Rowan, 1977 ; Oliver, 1990 ; Baum and Oliver, 1991).

Finally, it is important to know that institutional links are capital in an international development perspective. Indeed, institutions have contacts, relations in numerous countries that can make easier the insertion of a company inside a network of local firms.

The goals of a network structure.

Firms pursue cooperative agreements in order to obtain fast access to new technologies or markets, to take profit of scale economies in joint research and production, to know sources of knowledge outside the firm boundaries, to share risks, and to contract for complementary skills (Powell, 1987 ; Bleeke and Ernst, 1991 ; Hagedoorn, 1993 ; Hutt, Stafford, Walker and Reingen, 2000). Furthermore, companies realize partnerships to have access to resources they need (Hagedoorn and Schakenraad, 1994 ; Harrigan, 1988 ; Nohria and Garcia-Pont, 1991), learn new capacities (Kogut, 1988 ; Hamel, 1991 ; Powell, Koput et Smith-Doerr, 1996 ; Ahuja, 2000 ; Baum, Calabrese and Silverman, 2000), manage their dependence on other firms (Pfeffer and Salancik, 1978), or to maintain parity with their competitors. Pfeffer and Salancik (1978) suggest that companies can stabilize in a turbulent environment through cooperative agreements. These contracts are also very useful for start-ups. Indeed, these contracts allow to

inter markets to create a technological standard, to implement new relations with some distribution channels, to develop relations with providers and to realize profitable transformations. With the surge and Stearns (1990) and other network structure (Baum and Oliver, 1991 ; Hagedoorn and Schakenraad, 1994 ; Mitchell and Singh, 1996 ; Zaheer and Zenger, 1999).

Furthermore, alliances can favour value returns for customers, skills supply and capacities maintenance to improve the long term value of stockholders (Harrigan, 1988).

Nevertheless, negative effects exist. Collaboration can put companies in unproductive situations, and prevent them from realizing agreement with other firms (Gulati, Nohria & Zaheer, 2000). Negative aspects come from the environment, but also from partners. Tushman and Anderson (1986), for instance, said that an environmental shock can wipe out companies competences on which were based the reasons for the cooperative agreement. However, problems often come from a company inside the network. Indeed, firms that cooperate can lose proprietary information and knowledge, create organizational breaks, and also adaptation difficulties (Miner, Amburgey and Stearns, 1991 ; Baum, Calabrese and Silverman, 2000). Alliances between competitors can lead to the loss of critical proprietary knowledge, to increased dependence of one partner vis-à-vis the other, and even to the takeover of one partner by the other (Bleeke et Ernst, 1995 ; Dussauge, Garrette and Mitchell, 2000). Bleeke and Ernst (1991) agree with these assertions saying that 75% of alliances end with an acquisition.

One of the most important characteristics of the network is that it deals with an interaction between people from different organizations, that develops complementary skills and different visions. These meetings can be symbolized by rich informational exchanges for employees of a firm. "Our partners network is an active information source for us concerning potential alliances. "We are in constant dialogue with many of our partners, and this allows us to find many new opportunities with them and also with other firms out there" (Gulati, 1999). This informational network asset give companies a better access to information and knowledge, allow them to react faster than other firms and, in this way, they can maintain their competitive position. In this perspective, network is knowledge, not only by giving access to information or capacities, but also in representing a coordination form created by organization principles (Kogut, 2000). The network constitutes an important place for knowledge creation making easier the sharing of ideas, paradigms, routines and strategic views.

Proposition 1 : The concept of a sharing and coordination platform between individuals that makes easier and speeds up flows of knowledge is the attraction of this kind of structure.

Network concept.

Various types of interfirm alliances take on many forms, ranging from R&D partnerships to equity joint ventures to collaborative manufacturing to complex co-marketing arrangements (Powell, Koput and Smith-Doerr, 1996). Moreover, customers and providers relations can be divided in several partnership forms as co-production contracts, co-fabrication ones, research agreements (Hagedoorn, 1993). Nevertheless, in every cooperative agreement, competition and cooperation co-exist for network members. When partner firms are also competitors, there are many opportunities for inter-organizational learning (Hamel, 1991). Cooperative agreements can be viewed as knowledge concessions allowing the use of one's own knowledge by another firm (Kogut, 2000). However, we must keep in mind that alliances between competitors can conclude with the loss of proprietary knowledge.

According to Khanna, Gulati and Nohria (1998), it is very important to understand how companies can structure their cooperative agreements to use, in an optimal way, private and common benefits, and affect alliance development.

Innovation.

Historically, firms organized internal R&D and developed external research contracts for simple functions or products (Powell, Koput and Smith-Doerr, 1996). When knowledge basis of an industry becomes complex, bigger and expertise sources are dispersed, the dynamics of innovation will be in learning networks, and not in individual firms (Powell, Koput and Smith-Doerr, 1996). "Innovation is the result of internal knowledge development, but also external knowledge acquisition and use. In terms of products or services innovations are not realized in the research units of a company. External sources of knowledge are also very important for innovation. March and Simon (1958) suggested that borrowing is a kind of innovation catalyser. Consequently, innovation is dependent, for a large part, on the absorptive capacity of information and knowledge from its external environment. Proximity with firms that have same interests make easier idea exchange through network formation (Decarolis and Deeds, 1999). Many companies try to externalise and take advantage of the best capacities and innovations that providers can create. Using sophisticated communication means and externalisation, companies can reduce their innovation cycle in terms of time and space, reduce investments and risks, and highlight their innovations.

Managers play a capital role in the innovation process. Indeed, to increase the development of innovation sources, managers must improve and maintain a given competence, implement a flexible information system, have specific goals, and reward their providers for participating in innovation (Quinn, 1999).

According to Dyer and Singh (1998), several academics have shown that organizational learning is important for competitive success, asserting that organizations often learn thanks to collaboration with others firms (March and Simon, 1958 ; Powell et al., 1996). For instance, von Hippel (1988) found that, in some industries, more than two third of innovations came from initial ideas of customers. In other industries, the main part of innovation comes from providers. Von Hippel assert that a production network with efficient transfer mechanisms between users, providers and producers, would bring out more innovation in comparison with production networks with fewer knowledge sharing routines. Moreover, in the biotechnology industry, Powell et al. (1996) indicate that innovation takes place in the network (Barney, 1991). Since the beginning of the nineties, academics have increasingly been interested in innovative resources, and more accurately in knowledge resources (Hamel and Prahalad, 1992; Peteraf, 1993; Nonaka e Takeuchi, 1995; Grant, 1996). Companies highlight innovation strategic view and focus on information and knowledge change their structures and paradigms. According to Quinn (1999), companies indeed, as we have seen before, organizations must adapt to fit with customer and environmental needs. This transformational focus on capacities that appear very important for customers, reducing organizational weight;

- Constantly innovate to have a best performance in comparison to competitors, using a good information system and looking for external information ; 11
- Develop flexibility to adapt easily to customers needs, integrating customers' resources and providers' technology ;
- Use external investment sources and capacities through a growing externalisation.

These companies can be considered as innovative because their structure is new, as is the management used.

Proposition 2 : The network is a structure that favours innovation thanks to permeable frontiers. It allows companies to change their organizational surface, and experiment any restructuring process in face of the external environment.

The notion of trust.

Many academics criticized the cost economic transactions perspectives in alliances for its focus on partner opportunism. This approach does not take into account the role of trust, and the evolution of relationships in companies that are very important.

Trust is the most efficient mechanism to manage economic transactions. Companies that share mutual trust are more aware of norms, rules, routines and processes that every company must pursue (Gulati and Singh, 1998 / 1999) in order to succeed in cooperative agreements. According to Rolland (2000) "trust appears in literacy as a compulsory condition for alliance formation and knowledge transfer (Koenig and van Wick, 1993 ; Gulati, 1995 ; Bidault, 1998) ; it can be defined as an internal control mode that manage actors (van Wick, 1985). In any cooperative agreement, the power of inter-firms relationships is a function of managers' relationships that are responsible for partnership management. If managers agree and are confident, the partnership process will succeed (Hutt, Stafford, Walker and Reingen, 2000).

In partnerships where companies trust each other, contracts will be less detailed, meetings less frequent, there will be less attorney intervention and more communication between entities (Inkpen and Li, 1999). Individuals that work together share points of view, feelings, and it

Networks must be able to pursue an evolution. In his studies, Doz (1996) found that alliances that succeed pursue this on-going perspective through learning cycles, refinements and readjustments. According to him, failing projects are inert with few learnings for partners. In order to succeed, alliances must integrate transition periods through learning cycles, refinements and readjustments. This allows the development of trust between individuals.

The study of Mohr and Spekman (1994) asserts that trust, commitment to coordinate activities and capacity to give a legitimacy to this relationship are very important when forming a partnership, as communication and information quality. A lack of trust between parties constitutes a barrier to an efficient cooperation (Powell, Koput and Smith-Doerr, 1996). Trust between partners, when implementing an alliance, should give coordination and cost appropriation concerns, and, in that way, reduce hierarchical control needs in the partnership (Gulati and Singh, 1998 / 1999).

Companies that have strong network relationships are more aware of rules, routines and processes that every partner have to follow. Such a social structure allows hand-in-hand business, without the need to implement expensive formal controls (Gulati and Singh, 1999).

Proposition 3 : Trust between actors of a network is compulsory because it makes easier knowledge sharing, and it improves organization competitiveness, through constant innovation and practices rationalisation.

Conclusion.

Organizations face today tremendous information flows that they have to sort out, summarize, in order to be diffused and shared by other employees. The goal of this article consists of following the evolution of major environmental, technological and organizational changes that lead companies towards internal and external knowledge management. This trend uses the growing importance of intangible assets, and mainly the knowledge impact on firms performance.

This new strategic mode deals with the management of internal and external knowledge flows. These flows come from other companies, individuals, in relation with actors inside the firm. These links constitute a unity of contractual or other relationships, that spouse visible networks form (alliances, partnerships) or less visible ones (communities of practice). We can say that through collaboration, networks structure is the implementation of a clear strategic objective (Arrègle, Amburgey and Dacin, 1997). Furthermore, a company network can create a non-imitable and substitutable competitive advantage, and can be seen also as a kind of bridge to access strategic resources and capacities (Gulati, Nohria and Zaheer, 2000). For instance, networks make easier innovation that is responsible for the obtention of a competitive advantage in many cases. Many companies rely on cooperative agreements to learn faster and with fewer resources than their competitors. This network concept appears capital with knowledge management, where individuals, teams and organizations interact together in order to have access to the best information, technique or knowledge used by a firm. Pursuing this view, we assert that trust is very important in knowledge management, because it allows rich knowledge exchanges that are primordial innovation factors.

As a conclusion, it is interesting to note that knowledge management mainly relies on human, relational and technical aspects. Collaborative inducement and opportunities in the communication technologies", Strategic Management Journal, pp. 317-344.

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