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New challenges in competitiveness: knowledge development and coopetition

César Camisón-Zornoza, Montserrat Boronat-Navarro and Ana Villar-López*

Abstract

The main aim of this paper is to suggest how collaboration with competitors – coopetition – established for the joint creation of knowledge, could be a new opportunity that managers must evaluate as a strategic option. The literature on strategic alliances and knowledge creation is considered, together with the specific trend of alliances with competitors. Then, the process continues with the discussion of circumstances and characteristics in which coopetition could be a superior option, making it possible to develop new knowledge. Our research shows that in the case of coopetition, the two sides of the behaviour – competitive and cooperative – provide greater incentives to improve knowledge development. As this is a theoretical paper, deeper analysis is required to prove whether the advantages of strategic alliances with competitors over other alternatives are superior forms of organizing the process of knowledge creation in high-technology industries. With regard to practical implications, managers must consider the option of this kind of inter-organizational agreement with competitors as an alternative and an opportunity for integrating knowledge faster than they would in isolation. The originality of this paper lies in showing that the objective of coopetition must be the joint creation of new knowledge by partners, and in differentiating this type of cooperation from another in which the aim is to absorb knowledge from one of the partners. We present this kind of coopetition as a new strategic option that managers must evaluate, and this is the first attempt to discuss and differentiate the two types of alliances in a coopetition environment.

Keywords: Coopetition, knowledge creation, strategic alliances,

Resumen

El principal objetivo de este trabajo es sugerir cómo la colaboración con competidores, conocida con el término *coopetición*, establecida para la creación conjunta de conocimiento, puede suponer una nueva oportunidad que los directivos deben evaluar como una opción estratégica. Para el desarrollo del trabajo se tiene en cuenta la literatura relacionada con la creación de conocimiento y con alianzas estratégicas, junto con las especificidades de las alianzas con competidores. El trabajo continúa con la discusión de las circunstancias y características en las que la coopetición puede ser una opción superior, haciendo posible el desarrollo de nuevo conocimiento. Nuestra investigación muestra que en el caso de la cooperación con competidores, las dos características de esta relación – competitiva y cooperativa -, proveen mayores incentivos para mejorar el desarrollo de conocimiento. Al tratarse de un trabajo teórico, en futuras investigaciones se debería realizar un análisis más profundo para contrastar si las ventajas de las alianzas estratégicas con competidores son superiores efectivamente a otras formas de organizar el proceso de creación de conocimiento en industrias de alta tecnología. Con respecto a las implicaciones prácticas, los directivos deberían considerar esta opción de acuerdos inter-empresariales con los competidores como una alternativa y una oportunidad para integrar conocimiento más rápido que el desarrollo de manera aislada por una sola empresa. La originalidad de este trabajo residen en mostrar que el objetivo de la coopetición puede ser la creación conjunta de conocimiento por los socios, y en diferenciar este tipo de cooperación de otros en el que el objetivo es únicamente absorber conocimiento de los socios. Presentamos esta opción de coopetición como una nueva opción estratégica que los directivos deben evaluar, y esto supone el primer intento en diferenciar estos dos tipos de alianzas en un entorno de coopetición.

Palabras clave: Coopetición, creación de conocimiento, alianzas estratégicas

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1. Introduction

An increasingly important management phenomenon in today's changing markets is collaboration between competitors, which is called *coopetition*. Managers must have this strategic option in mind in order to compete and anticipate major trends and opportunities that could impact affect their own performance and even their survival. Some authors have argued that coopetiton is a new business model (e.g. Kotzab and Teller, 2003).

Environmental uncertainty in today's markets and rapidly changing technologies need quick responses, which are more easily achieved through the establishment of strategic alliances than in isolation. Through the extension and combination of the partner firm's resources, organizations are able to learn by establishing valuable assets that can lead to sustainable competitive advantages, and therefore to economic rents (Ireland, Hitt & Vaidyanath, 2002; George et al., 2001; Dyer & Singh, 1998; Simonin, 1997; Powell, Koput & Smith-Doerr, 1996). Companies can create greater value through cooperation than by acting independently.

Moreover, innovations that could be a source of a superior performance are increasingly based on knowledge that is distributed across a variety of firms (Lubatkin, Florin and Lane, 2001). This fact has changed the main reason for entering a strategic alliance from sharing resources to learning from each other (Bartlett and Ghoshal, 1995). In order to analyse and advance research on this topic, the Knowledge-Based View (KBV) has acquired growing importance. This approach has highlighted knowledge and learning capabilities as the most valuable assets that partners can obtain or create through strategic alliances. The specialized literature has also generally accepted that distinctive competences in knowledge creation and learning through strategic alliances have a positive effect on business performance (Emden, Yaprak & Cavusgil, 2005; George et al., 2001; Dyer & Singh, 1998; Simonin, 1997; Powell, Koput & Smith-Doerr, 1996).

Therefore, if organizations need the continuous development of new knowledge, we argue that alliances with competitors in which the main aim is joint knowledge creation are a better option for doing it than alliances in which one partner has the sole objective of acquiring knowledge, and are also better, under certain circumstances, than the option of the knowledge creation by a single organization. So, the value of this paper is to approach the topic of coopetition with knowledge creation, and to distinguish this option from another related one that shows important differences. This kind of collaboration with competitors is presented as a future trend which must be in managers´ thoughts.

The rest of the paper is structured in three sections. In the next section, we briefly introduce the concept of coopetition. The third section develops our propositions by first explaining the knowledge creation process and the advantages of this process through strategic alliances with competitors. In the final section, we explain the conclusions and practical implications.

2. Coopetition

Coopetition is the term used to refer to a relationship between firms that simultaneously involves competition and cooperation. Nalebuff and Brandernburger (1996) used game theory to develop this concept, although its origin is unclear. Meanwhile, Dagnino and Padula (2002) suggest that it was a manager, Ray Noorda, founder of Novell, who used the term for the first time. The meaning has evolved over the last few years and in some articles (e.g. Tsai, 2002; Luo, Slotegraaf and Pan, 2006) this word also reflects the relationship between different units in the same organization that are involved in cooperative and competitive behaviour. In this study we consider the concept from the point of view of the cooperation between different organizations which are also competitors.

While the term is still relatively new, as Walley (2007) states, a large number of papers have been produced on this subject, even without using the term coopetition (e.g. Hamel et al., 1989). The phenomenon of coopetition reflects a scenario in which cooperation between competing firms could benefit all participants, ahead of the traditional concept of the relationship between competitors (Palmer, 2000; Walley, 2007). This should therefore be an option firms bear in mind when they plan their strategies. Padula and Dagnino (2007) present this scenario as a third perspective in the analysis of inter-firm interdependence, ahead of the competitive perspective and the cooperative perspective, which offer only a partial view of reality.

In the empirical sphere, we can find good examples of successful coopetition in the case of the computer industry. The firms IBM and Microsoft (Kessler, 1998), Dell Computers and IBM (Albert, 1999), SAP and Oracle (Cringely, 2002), or more recently, in the case of electronics applied to video games, Toshiba and Sony (Jiménez, 2008) developed coopetitive relationships. In this latter growing market, Daidj (2008) studies this case of coopetition between Sony and Microsoft. Dagnino, Di Guardo and

Galvagno (2008) also analyse the cases of the Wintel alliance between Intel and Microsoft, and Mactel between Intel and Apple. These are notable cases for our research because we are interested in the development of knowledge through cooperation between competitors in industries in which innovations are produced continuously and where time plays an important role in the development of these innovations.

3. Knowledge creation in a coopetitive context

3.1 Knowledge creation

According to the Knowledge Based View (Nonaka and Takeuchi, 1995; Grant, 1996; Spender, 1996) organization is a distributed knowledge system (Tsoukas, 1996). Kogut and Zander (1992) put forward the idea that the justification for the existence of organizations lies in the framework that these provide as communities of actions constructed on organizational principles which cannot be provided by isolated individuals. The creation and transference of knowledge occurs efficiently within the organization (Kogut and Zander, 1992). The main aim of organizations and the reason for their existence is, therefore, knowledge creation (Grant, 1996). This is due to the fact that knowledge is stored in individuals in the shape of specialized knowledge, making it possible to move forward in creating new knowledge.

However, progress in value creation across knowledge transformation processes in new products and services requires the combination of more than one type of specialized knowledge. To make this creation possible, individuals have limits due to their own nature. Creation in the market is also problematic because it is difficult to appropriate explicit knowledge by means of market contracts or to transfer tacit knowledge, as this requires specific transactions associated with major investment. The organization has also been considered as a practice community in which collective knowledge is absorbed (Brown and Duguid, 1991; Lave and Wegner, 1992). This is also similar to the notion proposed by Tsoukas (1996) in which the organization is a distributed knowledge system. This author believes that it is a distributed system not only because knowledge is diffused in the organization, but also because it is indeterminate. The evolution of the system cannot advance, and, moreover, it depends on the context. Nonaka, Toyama and Nagata (2000) also argue that continuous creation of knowledge is the main aim of an organization.

3.2 *Knowledge creation in the context of strategic alliances*

Knowledge creation is a capability that may be also developed in the context of a strategic alliance. This theoretical approach proposes that strategic alliances and networks also constitute a mechanism for knowledge creation (Grant, 1996). Grant (1996) justifies the existence of strategic alliances and networks in the creation of knowledge, in some situations. The first one refers to the transference of explicit knowledge that is not absorbed in specific products and which cannot therefore be transferred across the market or be efficiently created internally due to uncertainty over its use and sources. Secondly, efficient use of knowledge requires correspondence between knowledge and the way it could be used; that is to say, the way it develops the firm’s products (Grant, 1996).

When there is no match between the company’s knowledge base and its product portfolio, or when an uncertainty exists over the relationship between these, collaboration between organizations will be an efficient knowledge creation mechanism (Grant, 1996). This is due to the fact that collaboration makes it possible to use specialized knowledge, because different organizations with different knowledge bases could more easily find an application for this specialized knowledge and also find more connections between new knowledge and products that can developed through this knowledge. The third situation that justifies collaboration in this context is when the speed of innovation is an important factor in competition. In environments with rapid change, collaboration provides a faster way of innovating (Grant, 1996).

The importance of the time factor means internal development is not viable and the acquisition and merger option can turn out to be more expensive than an alliance, as there is a high degree of uncertainty over what is being acquired (Deeds and Rothaermel, 2003; Lambe and Spekman, 1997). The appropriation or imitation of tacit knowledge, such as technological know-how, is practically impossible, mainly because there are no organized markets in which firms can acquire it, and because of the causal ambiguity and social complexity on which knowledge is based. In these conditions, strategic alliances are the main vehicle through which the company can access external knowledge and internalize it (Das and Teng, 2000; Kogut, 1988). This value increases when the competences of the companies taking part in the agreement are heterogeneous (Sakakibara, 1997). Grant (1996) indicates that, under certain circumstances, strategic alliances are the most effective option for integrating knowledge. One situation is the case in which the speed with which the company extends its knowledge is a fundamental issue in creating competitive advantage. Another situation is the case where there is a lack of fit between the knowledge the company has and its product portfolio.

Even if the knowledge the firm needs could be obtained through trade in the market, it may be that its value deteriorates notably because it is either embedded in organizational routines or other assets possessed by the organization and is difficult to separate from them (Madhok and Tallman, 1998). One characteristic of organizational know-how is precisely its cumulative nature, and the exchange of know-how between companies requires long-term relationships to be established (Kogut and Zander, 1992).

Organizations in today’s markets need innovation as much as they do flexibility and efficiency, but they must also concentrate their resources on core capabilities. Self-sufficiency is therefore increasingly difficult (Inkpen, 1996). Grant (1996) already postulates this idea, when he states that one of the characteristics knowledge creation must possess in order to be capable of creating competitive advantage is flexibility. Flexibility in knowledge creation is the degree to which one accesses additional knowledge allowing existing knowledge to be re-formed (Grant, 1996). This is one of the most important aspects of the development of capabilities in hyper-competitive environments. In order to obtain this flexibility, it is possible to find advantages in creation through collaboration with other organizations in some competitive industries such as biotechnology, as they allow access to a wider scale of relationships between knowledge and its possible applications. Collaboration will therefore be a mechanism that will facilitate knowledge creation.

The justification of the superiority of alliances over the market and over a single organization is then determined by the existence of imbalances between knowledge and of its application, that is to say, products (Grant, 1996). Nevertheless, rather than subordinating the efficiency of knowledge creation through inter-organizational collaboration to the situations proposed by Grant (1996) and Grant and Baden-Fuller (2004), we think, as do Powell, Koput and Smith-Doerr (1996) that, in environments of rapid change and in industries in which technological development takes place quickly, the specialized knowledge necessary to innovate is distributed across a wide variety of organizations. It is difficult for an isolated organization to have all the capabilities necessary to innovate continuously. Nowadays, the time between the identification of a problem and the solution or development of capabilities to solve the problem may not allow the firm to develop the knowledge needed to respond internally (Dierickx and Cool, 1989).

This is more evident in high-technology industries, where it is difficult for the knowledge necessary for producing innovations quickly and effectively to belong to an isolated firm. Cooperation arises then between companies, as a mechanism that increases organizational learning and knowledge (Powell, Koput and Smith-Doerr, 1996).

3.3 Knowledge creation and coopetition

Moreover, simultaneous cooperation and competition may stimulate greater knowledge sharing, and also technological progress (Lado, Boyd and Hanlon, 1997). The cooperative nature of this situation provides a context in which firms share the best practices that promote the deployment of knowledge, whereas the competitive nature of the relationship may provide a strong incentive to share this knowledge in order to obtain a better understanding of the other's position and processes (Luo et al., 2006). Following Hitt, Hayang and Worthington (2005), strategic alliances with competitors present special challenges as knowledge races between partners (Hamel, 1991) or when sharing resources and learning from partners while buffering critical capabilities. As Lado et al. (1997) states, success in today's world often simultaneously requires these two sides: competitive and cooperative behaviour between competitors. Deming (1993) even argues that the best partner in a strategic alliance is a competitor.

Of course, it is also possible that a negative effect occurs because competitors may preserve their own knowledge. However, in this study we propose that the positive effects are greater once competitors decide to cooperate. They must be confident in one another's capabilities and also contribute their own knowledge to the alliance to achieve success in the objectives of the collaboration. Joint knowledge creation provides positive effects by promoting knowledge seeking, which in turn improves firms' profits (Von Hippel, 1987; Lado et al., 1997). In the context of coopetition within an organization between different departments or units, Luo et al. (2006) found that coopetition has an important effect on performance outcomes through a growth in learning. Tsai (2002) also shows how interactions between different units could be more productive when there is a high level of competition for resources because these units share information and exploit their knowledge stores. Just as in the case of competing departments or units the development of tacit knowledge is promoted into a shared understanding of customer needs (Nonaka, 1994), cooperation with competitors could help firms to find more connections between new knowledge and products that can be developed through their own knowledge.

We therefore propose that organizational collaboration is a mechanism which facilitates knowledge creation under certain circumstances. Some authors who propose organizational performance and differences between companies cannot be understood nowadays without the thinking on collaboration and social networks in which they are situated that shares this idea. Our proposition states that external knowledge development through collaboration is a complement and not a substitute for internal knowledge creation (Powell, Koput and Smith-Doerr, 1996). The joint occurrence of cooperative and competitive behaviour could benefit the knowledge creation process.

We therefore state the following proposition:

Proposition 1. In environments of rapid change, knowledge sources are distributed across organizations and the establishment of strategic alliances with competitors will be a superior mechanism making it possible to create knowledge.

3.4. Knowledge development and knowledge absorption

Strategic alliances related to knowledge could be established in order to acquire knowledge from the partner or in order to jointly develop new knowledge. These are also the two aspects of the word coopetition, because they reflect the cooperative aspect, in the joint creation of knowledge, and the competitive aspect, in the acquisition of knowledge. We agree with the statement by Grant and Baden-Fuller (2004) when they argue that strategic alliances will be more positive for all of the partners if their aim is to share diverse frameworks of specialized knowledge. Knowledge is distributed between different entities (Powell, Koput and Smith-Doerr, 1996) and collaboration between them will favour learning (Levinthal and March, 1994). Learning in collaboration will depend on sharing knowledge and also in sharing dynamic capabilities that allow to use it and to exploit it (Powell, Koput and Smith-Doerr, 1996).

Alliances whose principal aim is learning have been named *learning alliances* (Lane and Lubatkin, 1998; Khanna, Gulati and Nohria, 1998). In this type of alliance, the process of establishment and implementation of the alliance will be more important than the final result, as this process could be an opportunity to learn mutually (Khanna, Gulati and Nohria, 1998 rather than acting as a passive entity to receive capabilities from the partner (Hamel et al., 1989). Joint knowledge creation in the alliance will provide common benefits to the partners, in contrast to the private benefits that will be merely a consequence of copying skills from the partner for later application in individual operations (Khanna, Gulati and Nohria, 1998). These authors propose the concept of common benefits as being those every partner in the alliance accumulates from the collective application of the learning that organizations obtain as a result of being part of an alliance (Khanna, Gulati and Nohria, 1998: 195). So they implicitly recognize joint knowledge creation, or at least, learning by both partners.

We therefore think that the aim of coopetition must be to create new knowledge together, and not to absorb the partner's knowledge, because this second possibility creates only private benefits (Khanna, Gulati and Nohria, 1998) which could lead to problems in this kind of cooperation. Once one firm has absorbed enough knowledge form the other partner, it has no incentives to continue in the alliance (Khanna, Gulati and Nohria, 1998). Obtaining only common benefits could also be dangerous, because firms need to apply the results of cooperation in their own markets and products.

New knowledge established through the learning alliance does not previously exist, for one partner or for the other (Phan and Peridis, 2000). This line of research is still in its early stages, as it is different from the research that analyses alliances as a way of accessing the partner's knowledge. These studies do not speak specifically about joint knowledge creation. One of the few pieces of research is the study by Phan and Peridis (2000) in which they compare this search for acquiring knowledge to learning from simple loop, while, in order for new knowledge to be created, learning from a double loop is required.

Double loop or second order learning (Argyris and Schon, 1978, 1996) is also changes the paradigms on which the organization's thought is based. For this type of learning to happen in alliances, the mental models the partners use to solve problems or interpret conclusions must be changed. This will make possible a new way of drawing conclusions and resolving conflicts in the alliance and, therefore, the creation of knowledge which will be new for the partners. Lubatkin, Florin and Lane (2001) follow a similar view. They study reciprocal learning, so the unit of analysis is now both organizations that collaborate in a project, not just one of the firms. This makes the partners interdependent. These authors assimilate this type of learning to the double loop learning concept of Argyris and Schon (1978).

Nevertheless, cooperation across strategic alliances is an organizational learning process through which companies internalize competences from their partners (Kale, Singh and Permutter, 2000) or configure new knowledge together. It is not unusual to find companies that participate in strategic alliances only to gain access to their partners' knowledge, but make no attempt to integrate this knowledge into their own operations. We do not, therefore, deny the existence of strategic alliances in which the main aim is the transference, acquisition or absorption of knowledge. The type of company that acts in this way may even form the most numerous group. Lubatkin, Florin and Lane (2001) propose a typology of these types of alliances in which learning is the principal objective, depending on how tacit the knowledge the alliance attempts to create or acquire is, and on how difficult the governance of the alliance is. Reciprocal learning alliances are one of the proposed types: they are characterized by low-medium levels of difficulty in governance and the creation of tacit knowledge. The difficulty of governance could be greater in the case of cooperation with competitors. Nevertheless, we also classify this type of alliances as reciprocal learning alliances, because the degree of difficulty is measured in the classification of Lubatkin, Florin and Lane (2001) in comparison with other alternatives, such as mergers and acquisitions, where cultural problems are greater. This is the type of alliance in which our interest lies, since our area of study concerns markets characterized by hyper-competition and rapid change. The same authors also argue that this type of alliance will become more common as a result of global competition, the convergence of technologies and the need to develop capabilities more rapidly. In these circumstances, the absorption of the partner's knowledge, which may frequently be unfamiliar to the firm attempting to absorb this knowledge, may be a slow process.

Therefore, our second proposition is:

Proposition 2. In environments demanding rapid innovation, coopetition related to the joint creation of knowledge will produce better performance in any of the partners in the alliance than in alliances in which the aim is to absorb the knowledge of one of the organizations.

Lane and Lubatkin (1998) develop the theory of absorptive capacity proposed by Cohen and Levinthal (1990) shifting the unit of analysis to the dyadic relations between a pair of student-teacher firms. They analyse learning from the point of view of the student firm, but they also recognize that factors influencing this learning also affect the *two-way* learning (Lane and Lubatkin, 1998: 464). This concept of two-way learning is similar to the idea of the joint creation of knowledge that we develop in this paper, but we specifically propose that this type of alliance is superior to alliances in which the aim is only to absorb knowledge with one firm acting as a *teacher* and another as a *student.*

Moreover, the authors analyse how the similarity in systems and structure of firms in the alliance positively influences learning. They show that the resemblance of commercial objectives is one of the characteristics that have a positive effect. While objectives could vary over time, preferences for certain types of projects follow a *dominant logic* (Prahalad and Bettis, 1986; Grant, 1988). This similarity in commercial objectives is clearly greater in the case of competitors. We therefore think that coopetition is a situation where the joint development of knowledge could have greater benefits. So this should be an important property to analyse in order to establish a strategic alliance. These preferences over time allow a firm to develop expertise in using information in a specific way and determine the way in which it applies knowledge. The more familiar the firms are with the same types of problems and projects, the more readily they will be able to apply new knowledge commercially (Lane and Lubatkin, 1998: 466).

Nevertheless, this similarity must not become equality in the case of the partner's knowledge bases. The balance between the cooperative and the competitive issues in the relationship must provide common benefits to all partners. If firms perceive their competitors have the same knowledge domains, the likelihood of entering the alliance will decrease. This idea is also reflected in the propositions in the research of Padula and Dagnino (2007). In a context of a coopetitive situation, they propose that the distance between the scientific and technological domains of the partners promotes the competitive issues in the relationship and this, in turn, increases the likelihood of a firm entering this cooperation.

5. Conclusion

Knowledge creation is one of the main capabilities organizations must possess in today's markets (Grant, 1996). Organizations involved in high-technology industries need to accelerate the speed with which they introduce innovations into the market in order to survive in hyper-competitive environments. However, sources of knowledge are often distributed across a great variety of organizations. We propose that strategic alliances are a superior mechanism enabling the creation of new knowledge in this type of environment. Moreover, there are some experiences showing that value creation is achieved by combining competition and cooperation (Dagnino and Padula, 2002). In the case of strategic alliances with competitors, the two sides of the behaviour – competitive and cooperative – provide greater incentives to improve knowledge development. The cooperative side encourages the sharing of the best practices that promote the deployment of knowledge, and the competitive side provides a strong incentive to share this knowledge in order to obtain a better understanding of the other's position and processes (Luo et al., 2006). Firms that are in the same business are more likely to show closer dominant logics (Padula and Dagnino, 2007), which, in turn, provides greater potential for seeking suitable solutions.

We also argue that the advantage could be even greater in the case of alliances in which the main aim is joint knowledge creation, compared with other kinds of agreements in which one partner absorbs knowledge from other partners. Common benefits to all partners may be greater if their objective is mutual learning and creating new knowledge (Khanna, Gulati and Nohria, 1998) as a consequence of being part of the alliance due to the distribution of expertise across organizations. Coopetition requires a deeper analysis in management literature (Dagnino, 2007), and we think the Knowledge Based View could be a way of dealing with the topic that might have interesting results in explaining innovation. The visible effect of the development of knowledge in a firm is innovation.

Implications for managers concern the option of considering this kind of inter-organizational agreement with competitors as an alternative and an opportunity to integrate knowledge faster than they would in isolation. As Lado et al. (1997) states, success in today's world often requires simultaneously competitive and cooperative behaviour. Coopetition goes beyond competition and cooperation to combine the advantages of both. This is an important strategic decision that they should bear in mind. Where their organizations participate in this type of collaboration, they should also consider changing the way daily operations are undertaken, and the fact that these changes can have both positive and negative effects.

It is also notable that good examples of coopetition could be found in the computer industry. This is a context of rapid change where firms need to innovate more quickly. This fact emphasizes our idea that this kind of cooperation should be a valuable alternative in the development of knowledge in a context of rapid changes and hyper-competition.

Our study has some limitations deriving from its theoretical nature. We cannot confirm and generalize our arguments without testing the propositions through an empirical study. A deeper analysis is therefore required in order to investigate whether the advantages of strategic alliances with competitors over other alternatives consist of superior forms of organization, in the case of knowledge creation in high-technology industries. Moreover, knowledge creation across organizational boundaries could be more difficult and complicated in the case of collaboration with competitors. Conflict and rivalry are always underlying features in this kind of alliance. Firms have the obvious tendency to guard their own knowledge, which, in turn, could create problems in the development of the strategic alliance. Aspects such as trust between partners and the clear specification of the objectives of the agreement therefore require deeper analysis in the context of coopetition.

REFERENCES

Albert, S. 1999. E-commerce revitalizes Co-opetition. *Computerworld,* 33 15, pp. 36.

Argyris, C.; Schön, D. 1978. *Organizational learning: a theory of action perspective.* Addison-Wesley, Reading, Mass.

Argyris, C.; Schon, D. 1996. *Organizational learning II. Theory, method and practice.* Addison-Wesley, Reading, Mass.

Bartlett, C.A.; Ghoshal, S. (1995). *Transnational management: Texts, cases and readings in crossborder management.* Homewood, IL: Irwin.

Brown, J.S., & Duguid, P. 1991. Organizational learning and communities-of-practice: toward a unified view of working, learning, and innovation. *Organization Science*, 2 (1), 40-57.

Cohen, W.M.; Levinthal, D.A. 1990. Absorptive capacity: a new perspective on learning and innovation. *Administrative Science Quarterly,* 35, 128-152.

Cringely, R.X. 2002. A peaceful coexistence. *InfoWorld*, 24 15: 12.

Crossan, M.M. and Inkpen, A.C. 1994 Promise and reality of learning through alliances. *The International Executive*, 36 3, 263-274.

Dagnino, G.B., and G. Padula 2002. Coopetition Strategy: A New Kind of Interfirm Dynamics for Value Creation. *Paper presented at the Second EURAM Annual Conference*, Stockholm, May 9–11.

Dagnino, G.B. 2007. Preface. Coopetition strategy – Toward a new kind of inter-firm dynamics? *International Studies of Management and Organization,* 37 2, 3-10.

Dagnino, G.B.; Di Guardo, M.C.; Galvagno, M. 2008. Coopetition capabilities in action: the cases of Wintel and Mactel. *Paper presented at 3rd Workshop on coopetiton strategy – Streching the boundaries of coopetition*, Madrid, February 7-8.

Daidj, N. 2008. How does coopetition change according to industry evolution? The case of video games consoles sector. *Paper presented at 3rd Workshop on coopetiton strategy – Streching the boundaries of coopetition,* Madrid, February 7-8.

D´Aveni, R. 1994. *Hypercompetition: Managing the Dynamics of Strategic maneuvering.* Free Press, New York.

Das, T.K. and Teng, B. 2000 A resource-based theory of strategic alliances. *Journal of Management*, 26 1, 31-61.

Deming, W.E. 1986. *Out of crisis.* Cambridge: MIT.

Dierickx, I., and Cool, K. 1989. Asset stock accumulation and sustainability of competitive advantage. *Management Science,* 35, 1504-1511.

Dyer, J.H. and Singh, H. 1998 The relational view, Cooperative strategy and sources of interorganizational competitive advantage. *Academy of Management Review,* 23 (49): 660-679.

Eisenhardt, K.M. and Schoonhoven, C.B. 1996 Resource-based view of strategic alliance formation, Strategic and social effects entrepreneurial firms. *Organization Science,* 7 (2): 136-150.

Emden, Z., Yaprak, A., and Cavusgil, S.T. 1998 Learning from experience in international alliances, antecedents and firm performance implications. *Journal of Business Research*, 58 (7): 883-892.

George, G., Zahra, S.A., Wheatley, K.K., and Khan, R. 2001 The effects of alliance portfolio characteristics and absortive capacity on performance. A study of biotechnology firms. *Journal of High Technology,* 12: 208-226.

Grant, R.M. 1988. On dominant logic, relatedness, and the link between diversity and performance. *Strategic Management Journal*, 9 (6): 639-642.

Grant, R.M. 1996. Prospering in dynamically-competitive environments: organizational capability as knowledge integration. *Organization Science,* 7: 375-387.

Grant, R. M.; Baden-Fuller, C. 2004. A knowledge accessing theory of strategic alliances. *Journal of Management Studies*, 411: 61-85.

Gulati, R. 1999 Network location and learning, the influence of network resources and firm capabilities on alliance formation. *Strategic Management Journal*, 20: 397-420.

Gulati, R.; Nohria, N.; Zaheer, A. 2000. Strategic networks. *Strategic Management Journal*, 21 (3): 203-217.

Hamel, G. 1991. Competition for competence and interpartner learning within international strategic alliances. *Strategic Management Journal*, 12: 83-103.

Hamel, G., Doz, Y.L., and Prahalad, C.K. 1989. Collaborate with your competitors and win. *Harvard Business Review*, 67 (1): 133-139.

Hitt, M. A.; Haiyang, L.; Worthington, J. 2005. Emerging markets as learning laboratories: learning behaviours of local firms and foreign entrants in different institutional contexts. *Management and Organization Review*, 1 (3): 353.

Inkpen, A.C. 1996 Creating knowledge trough collaboration. *California Management Review*, 39 (1): 123-140.

Ireland, R.D., Hitt, M.A., and Vaidyanath, D. 2002 Alliance management as a source of competitive advantage. *Journal of Management*, 28 (3): 413-446.

Jiménez, M. 2008. Toshiba se une ahora a Sony en los chips. *Expansión*, February, 21: 16.

Kale, P., Singh, H., and Perlmutter, H. 2000 Learning and protection of proprietary assets in strategic alliances, Building relational capital. *Strategic Management Journal*, 21: 217-237.

Kessler, A.J. 1998. Friendly Warfare. *Forbes*, March 9: 214.

Khanna, T.; Gulati, R.; Nohria, N. 1998. The dynamics of learning alliances: Competition, Cooperation, and relative scope. *Strategic Management Journal*, 19 (3): 193-212.

Kogut, B. 1988. Joint ventures: theoretical and empirical perspectives. *Strategic Management Journal*, 9 (4): 319-333.

Kogut, B.; Zander, U. 1992. Knowledge of the firm, combinative capabilities, and the replication of technology, *Organization Science*, 3 (3): 383-397.

Kotzab, H., and Teller, C. (2003) Value-Adding Partnerships and Co-opetition Models in the Grocery Industry. *International Journal of Physical Distribution and Logistics Management* 33 (3): p. 268–281.

Lado, A.A.; Boyd, N.G.; Hanlon, S.C. 1997. Competition, cooperation, and the search for economic rents: a syncretic model, *Academy of Management Review*, 22 (1): 110-141.

Lane, P.J.; Lubatkin, M. 1998. Relative absorptive capacity and interorganizational learning, *Strategic Management Journal*, 19 (5): 461-477.

Lave, J. and Wenger, E. 1992. *Situated Learning: Legitimate Peripheral Participation*. Cambridge.

Lubatkin, M.; Florin, J.; Lane, P. 2001. Learning together and apart: a model of reciprocal interfirm learning. *Human Relations*, 54 (10): 1353-1382.

Luo, X.; Slotegraaf, R.J.; Pan, X. 2006. Cross-functional “coopetition”: the simultaneous role of cooperation and competition within firms. *Journal of Marketing*, 70 (April): 67-80.

Madhok, A., & Tallman, S. 1998. Resources, transactions and rents, managing value through interfirm collaborative relationships. *Organization Science*, 9 (3): 326-339.

Mitchell, W. and Singh, K. 1996 Survival of business using collaborative relationships to commercialize complex goods. *Strategic Management Journal*, 17: 169-195.

Mowshowith, A. 1986. Social dimensions of office automation. In Yovitz, M., *Advances in Computers v.25,* Academic Press, New York.

Nalebuff, B.F.; Brandenburger, A.M. 1996. *Co-opetition.* London: Harper Collins.

Nonaka, I. 1994. A dynamic theory of organizational knowledge creation. *Organization Science*, 5 (1): 14-37.

Nonaka, I., and Takeuchi, H. 1995. *The knowledge-creating company*. Oxford University Press, New York.

Nonaka, I., Toyama, R., & Nagata, A. 2000. A firm as a knowledge creating entity: a new perspective on the theory of the firm. *Industrial and Corporate Change*, 9 (1): 1-20.

Padula, G.; Dagnino, G.B. 2007. Untangling the rise of coopetition. The intrusion of competition in a cooperative game structure. *International Studies of Management and Organization,* 37 2: 32-52.

Palmer, A. 2000. Co-operation and competition: a Darwinian synthesis of relationship marketing. *European Journal of Marketing,* 34 (5): 687-704.

Phan, P.H.; Peridis, T. 2000. Knowledge creation in strategic alliances: another look at organizational learning. *Asia Pacific Journal of Management,* 17: 201-222.

Powell, W.W., Koput K.W., and Smith-Doerr, L. 1996 Interorganizational collaboration and the locus of innovation, networks of learning in biotechnology. *Administrative Science Quarterly*, 41 (1): 116-145.

Prahalad, C.K.; Bettis, R. 1986. The dominant logic: a new linkage between diversity and performance. *Strategic Management Journal,* 7 (6): 485-501.

Sakakibara 1997. Heterogeneity of firm capabilities and cooperative research and development: an empirical examination of motives. *Strategic Management Journal*, 18 (6): 143-165.

Simonin, B.L. 1997 The importance of collaborative know-how, an empirical test of the learning organization. *Academy of Management Journal,* 4 (5): 1150.

Spender, J.C. 1996. Making knowledge the basis of a dynamic theory of the firm. *Strategic Management Journal*, 17 (Winter Special Issue): 45-62.

Tsai, W. 2002. Social structure of “coopetition” within a multiunit organization. *Organization Science*, 2 (March): 179-190.

Tsoukas, H. 1996. The firm as a distributed knowledge system: a constructionist approach. *Strategic Management Journal*, 17 (Winter Special Issue): 11-25.

Von Hippel, E. 1987. Cooperation between rivals: informal know-how trading. *Research Policy*, 16 (6): 291-302.

Walley, K. 2007. Coopetition. An introduction to the subject and agenda for research. *International Studies of Management and Organization*, 37 (2): 11-31.

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