



Competitive advantage in interfirm cooperation: old and new explanations

Competitive
advantage

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Abstract

Purpose – The purpose of this paper is to examine how different strategy theories complement each other with respect to understanding competitive advantage of a single firm that utilizes interfirm cooperation.

Design/methodology/approach – The paper provides an analytical review of three schools of strategy research in order to highlight their contributions, shortcomings, and interrelations with respect to sustainable competitive advantage and to clarify their explanations of competitive advantage in interfirm cooperation. On the basis of this analysis, an integrated perspective that captures industry, organization, and relationship attributes is proposed.

Findings – The paper suggests that old and new paradigms in strategic management (industrial organization economics, resource-based theories, and the relational view) are applicable alongside each other when analyzing how a single firm gains competitive advantage by utilizing interfirm cooperation. It is argued here that no paradigm can be used to substitute others and thus an integrated perspective is needed. The paper provides a discussion and implications on how each paradigm complements others and illustrate this by sketching a refined strengths, weaknesses, opportunities, threats (SWOT) analysis framework.

Practical implications – The paper gives a practical implication for managers who utilize traditional SWOT analysis in their decision making. By including relationship potential and limitations to the conceptual toolbox of thinking strategy through SWOT, managers can gain additional insight into internal strengths and weaknesses and external opportunities and threats analysis.

Originality/value – The study increases understanding on how prevailing perspectives on competitive advantage can be used in analyzing interfirm cooperation.

Keywords Strategic management, Competitive advantage

Paper type Conceptual paper

1. Introduction

The essential question in strategy research is to explain why some firms perform better than others (Porter, 1991; Rumelt *et al.*, 1991). Thus, strategy could be viewed as a “continuing search for rent” (Bowman, 1974, p. 47). According to Powell (2001), several assumptions are shared by the leading strategy theories:

- sustained superior performance exists;
- it has specifiable causes; and
- these causes are tied to the concept of competitive advantage (see also Barney, 1997).

Competitive advantage could thus be defined as “the ability of a firm to outperform its industry, that is to earn a higher rate of profit than the industry norm” (Besanko *et al.*, 2000, p. 626). This is in line with Schoemaker’s (1990, p. 1179) notion of the systematic



creation of above-average returns or rents. It is important to note, however, that strategy theories differ as to the sources of competitive advantage, and researchers debate the relative impact of industry- and firm-specific factors (Hawawini *et al.*, 2003; McGahan and Porter, 1997; Rumelt, 1991).

Recently, however, the strategic importance of cooperation and networks in gaining competitive advantage has also been noted in research and in practice. Contractor and Lorange (2002) pointed out that the strategies of major corporations such as IBM and GE, which used to be based strictly on competition, now rely on a vast number of alliances. Consequently, an increasing body of literature emphasizes the importance of cooperative strategies as an option for isolation. At the same time, many scholars have started to criticize the traditional views of competitive advantage for their overemphasis on the firm level (Dyer and Singh, 1998; Gulati *et al.*, 2000; Duschek, 2004). The dominant strategy schools (industrial organization economics (IOE) and resource-based theories) tend to be introspective and to focus on the resources or position of a single firm. In reality, firms are embedded in networks of relationships, which determine, to a great extent, the possibilities and boundaries of their actions, and thus these networks are seen as an important source of competitive advantage (Jarillo, 1998; Dyer and Singh, 1998; Gulati *et al.*, 2000; Ireland *et al.*, 2002). Such embeddedness is especially evident in industries in which product offerings are systemic. This means that the success of a certain firm's product or service is dependent on the existence of complementary assets and the actions of other actors (Chesbrough and Teece, 1996; Teece, 1986). For example, a cellphone manufacturer such as Nokia cannot provide all the required parts of the whole customer offering; the cellphone is no use without a decent network infrastructure, retailers, service developers and providers, telecom operators, and system integrators. Continuous collaboration with each of these stakeholder groups is important, and relative success in these relationships translates into competitive advantage (or disadvantage) with respect to other cellphone manufacturers. Indeed, Kanter (1994) called this perspective "collaborative advantage."

Despite the broad contributions to the literature in recent years, theoretical discussion-linking interfirm cooperation and competitive advantage is still limited (Gulati *et al.*, 2000; Duschek, 2004). According to the relational view (Dyer and Singh, 1998), which represents the most recent major theoretical development, issues to do with interfirm relationships are considered sources of competitive advantage. However, in order to fully understand the competitive advantage of a single firm in the context of interfirm cooperation, both intra- and inter-organizational resource processes need to be considered (Duschek, 2004, p. 69); the relational view only addresses the latter. In addition, despite the lack of recent major contributions in the strategy literature, industry-level analysis has lots of predictive power alongside the other perspectives. Consequently, we propose that a complementary or renewed perspective on gaining and sustaining competitive advantage is needed in order to understand how modern firms create supernormal profits. Our goal in this paper is to understand the role that different strategy theories might have in the study of competitive advantage in interfirm cooperation.

It is worth noting that there is variation in the various forms of cooperation (for a review, see Contractor and Lorange, 2002). For the purposes of this paper we use "cooperation" as a general term to describe strategic relationships between business organizations which are more than arms-length transactions but less than the complete consolidation of resources.

The rest of the paper is structured as follows. We begin with an analytical review of the different perspectives on competitive advantage, and then proceed to discuss their applicability in the understanding of competitive advantage stemming from interfirm cooperation. On the basis of our analysis, we argue that an integrated perspective that captures industry, organization, and relationship determinants is needed. We conclude by discussing our contribution to research and practice.

2. Competitive advantage and interfirm cooperation – theoretical explanations

As mentioned, theoretical explanations of the firm's competitive advantage have been dominated by two theoretical schools: views that focus on the industry (IOE) and those that focus on the firm's particular and unique resources and capabilities (resource-based theories). In addition, recent streams of thought (the relational view) have also suggested focusing on relationships as a source of competitive advantage. We follow these influential streams, review the main tenets of IOEs, resource-based theories and the relational view, and discuss their applicability in explaining competitive advantage in a networked economy. We conclude this section by giving a summary in which each theory is assessed in terms of its explanation of sources of competitive advantage, sustainability, and interfirm cooperation.

2.1 Industrial organization economics

The dominant strategy school until the 1980s was IOE (Hoskinsson *et al.*, 1999). It is a field of economics that deals with the structure of markets, the behavior of firms, and the social benefits and costs associated with various forms of market structure and firm behavior (Teece, 1984; Hoskinsson *et al.*, 1999; Tirole, 2003). Scholars contributing to the traditional body of research on industrial organizations, and building on the influential writings of Mason and Bain (Williamson, 1990; McWilliams and Smart, 1993), have been primarily concerned with explaining and evaluating industry performance (Spanos and Lioukas, 2001). An essential paradigm within this view has been that of structure-conduct-performance which holds that a firm's performance depends upon the conduct of the buyers and sellers in the market, and their conduct depends on the structure (e.g. the number and size of the sellers) (Porter, 1981). The causality runs from structure to conduct and to performance, but feedback effects are also recognized (Teece, 1984; McWilliams and Smart, 1993).

This view was later redefined (Teece, 1984) in Porter's (1980, 1985, 1991) frameworks focusing on an individual firm and its performance. Porter (1985, 1991) describes a firm as a bundle of strategic activities: resources are not valued in and of themselves, but are intermediate between activities and advantage. The goal of the strategic activities is to adapt to the industry environment by seeking an attractive position in the market arena. Returns are determined by the structure of the industry within which the firm operates (Barney, 1986b) and success will then result from an attractive market position due either to the selection of a lower cost base or to product differentiation (Porter, 1991).

Thus, a firm with an attractive market position can exercise market power (Teece, 1984) and gain monopoly or Chamberlinean rents (Mahoney and Pandian, 1992; Teece *et al.*, 1997). Monopoly rents result from the deliberate restriction of output (Rumelt, 1987; Peteraf, 1993) and pricing above marginal costs. According to McGahan

and Porter (1997), the sustainability of such rents is closely linked to the industry structure, which changes relatively slowly (see also Porter, 1991).

In order to gain market power over their rivals, competing companies may form cartels (Noguera and Pecchecchino, 2007) or enter into collusive agreements (Porter, 2005), both of which could be seen as forms of interfirm cooperation within the IOE framework. Therefore, from the IOE perspective, interfirm cooperation is a source of a more favorable market position and related market power.

In sum, IOE posits that in order to gain competitive advantage firms must seek positions in which they can leverage monopoly power over other players. While the competitive landscape has become substantially more dynamic in recent decades, we argue that the analytical tools that IOE offers are still useful in terms of understanding the relative positions of players in a given industry. Even though the IOE perspective is focused on a single firm's position against other players, we consider it useful in analyzing competitive advantage in interfirm cooperation. It is essential for firms cooperating with other actors to realize the possible incentives and power positions of each party in the industry. This includes analyzing not only their own positions in the market, but also looking at the positions and incentives of the cooperative partners and competitors. As an example, important work has been done in this area in terms of integrating cooperative and non-cooperative game theory (Brandenburger and Nalebuff, 1996; Brandenburger and Stuart, 2007). In sum, we argue that the value of the IOE perspective with regard to interfirm cooperation lies in its ability to understand the relative positions of the focal firm, its partners, and its competitors.

2.2 Resource-based theories of the firm

As opposed to the Porterian view of the firm as a bundle of activities, the central tenet of the resource-based view (RBV) is that a firm is a bundle of idiosyncratic resources and capabilities (Wernerfelt, 1984; Rumelt, 1984; Barney, 1986a, 1991; Peteraf, 1993). In line with Acedo *et al.* (2006), we see resource-based theories as a larger theoretical framework comprising several different streams of thought, which cover the traditional RBV, the knowledge-based view (KBV), and the dynamic capabilities view (DCV).

According to the RBV, the argumentation for competitive advantage goes as follows: firms are heterogeneous with regard to the resources and capabilities they possess (Barney, 1991; Nelson, 1991). Barney (1991, 2001), in turn, states that a firm's competitive advantage is based on its valuable, rare, imperfectly imitable, and non-substitutable resources, i.e. so-called VRIN attributes. The basic Ricardian thesis (Turner, 1921) is that some productive factors, i.e. resources, are more efficient than, i.e. superior to, others, and firms endowed with such resources are able to produce more economically and/or to better satisfy customer needs and thus earn Ricardian rents (Castanias and Helfat, 1991; Peteraf, 1993; Teece *et al.*, 1997; Spanos and Lioukas, 2001). Both *ex post* limits on competition and imperfect mobility of resources are needed for the sustainability of rents (Peteraf, 1993; Barney, 1986a; Dierickx and Cool, 1989; Mahoney and Pandian, 1992).

Recent developments in the RBV include the KBV of the firm and the DCV. The latter (Teece *et al.*, 1997; Eisenhardt and Martin, 2000) furthers the resource-based theory by focusing on different outlooks on competition. It builds on the Schumpeterian (Schumpeter, 1934, 1942/1950) notion that competition is not stable or predictable

(Barney, 1986b), and that competitive advantage is all about seizing new opportunities, entrepreneurship, discovery, and innovation. Thus, rents in the DCV framework are considered Schumpeterian (Teece *et al.*, 1997). The DCV addresses the issue of future resource creation (Bowman and Ambrosini, 2003), and specifically the firm's ability to renew its resources in line with changes in the environment. Teece *et al.* (1997, p. 516) define dynamic capabilities as "the ability to integrate, build and reconfigure internal and external competences to address rapidly changing environments." This is in line with Winter's (2003) definition of dynamic capabilities as those that operate to extend, modify, and create ordinary capabilities.

The KBV could be seen as a part of the greater concept, or an outgrowth, of the resource-based theory (Conner and Prahalad, 1996; Acedo *et al.*, 2006). Indeed, many proponents of the "traditional" RBV have acknowledged the meaning of knowledge as the primary resource of a firm's competitive advantage (Cyert *et al.*, 1993; Prahalad and Hamel, 1990). However, the main difference between the RBV and KBV is that the latter views the firm as a social entity that specializes in integrating, transferring, and creating knowledge (Spender, 1996; Kogut and Zander, 1996; Grant, 1996). This means that while the RBV treats knowledge as a static asset that can be identified and measured, the KBV focuses more on internal processes and dynamics; knowledge is considered a rare and valuable resource, but the focus is also on the creation of new knowledge and capabilities. Thus, the rents in the KBV framework could be considered both Ricardian and Schumpeterian.

While all resource-based theories focus mainly on the focal firm's internal resources and capabilities, they also seem to include an assumption that cooperative interfirm relationships are a source of complementary resources and capabilities that can be used to achieve an optimal resource configuration (Das and Teng, 2000; Ireland *et al.*, 2002; Grant and Baden-Fuller, 2004). Moreover, resource-based theories see alliances as vehicles for acquiring resources, capabilities, and knowledge (Hamel, 1991; Dussauge *et al.*, 2000; Inkpen, 2000; Ireland *et al.*, 2002). In sum, the main rationale behind interfirm cooperation from the resource-based perspective is the value-creation potential of different firms' resources and capabilities that are pooled together to create greater competitive advantage than a single firm could achieve.

2.3 The relational view

Although resource-based theories can explain the rationale of interfirm cooperation to some extent, they have been criticized for focusing too much on value appropriation from the single firm's perspective rather than on value creation in the relationship itself (Gulati *et al.*, 2000; Duschek, 2004). As part of this criticism, the first theory to explicitly address the relationship perspective on competitive advantage was the relational view introduced by Dyer and Singh (1998). Supernormal rents are called relational rents and refer to the interfirm relationships themselves as the source. Thus, the unit of analysis is not the resources or capabilities of the firm, but the relationship between firms. Dyer and Singh (1998) identify four sources of inter-organizational competitive advantage:

- (1) relation-specific assets;
- (2) knowledge-sharing routines;
- (3) complementary resources and capabilities; and
- (4) effective governance.

Competitive advantage gained through these sources can also be sustained because interfirm networks offer a vast amount of barriers to imitation, such as inter-organizational asset interconnectedness, partner scarcity, resource indivisibility, and the institutional environment.

First, the bigger the investments in relationship-specific assets, the more potential there will be for creating relational rents. The rents generated by these assets can be exploited by means of long-standing safeguards and a high volume of transactions between cooperating parties. This view of asset specificity resembles Williamson's (1985) analysis, but gives a different perspective on the economic reasoning behind the specificity. Second, creating knowledge-sharing routines among firms increases the potential for relational rents. If knowledge that is tacit, sticky, and difficult to codify is shared, a more sustainable competitive advantage can be gained (Dyer and Singh, 1998). According to an empirical study conducted by Dyer and Nobeoka (2000), a network that has a strong identity and coordinating rules may be superior to a single firm in recombining and creating knowledge. Third, complementary but scarce resources and capabilities can be used jointly in the creation of unique new products, services, or technologies (Dyer and Singh, 1998); firms can achieve a better competitive position by utilizing complementarities than by operating individually. The notion of complementary resources is also an implicit assumption in the RBV with respect to interfirm cooperation (Das and Teng, 2000). However, the crux of the relational argument is that the ability of firms to create relational rents by using complementary resources is tied to prior alliance experience, investment in their internal capability in the search for partners, and the ability to occupy information-rich positions in networks.

Finally, effective governance facilitates the utilization of all the aforementioned sources. Effective governance is in line with the transaction cost hypothesis concerning opportunism issues. Dyer and Singh (1998) suggest that the potential of relational rents will be greater when partners are able to align their governance structures so as to minimize transaction costs. Moreover, the more ready the partners are to employ self-enforcing safeguards, the greater is the potential for relational rents. This is because third-party safeguards such as legal contracts can always be imitated by a competitor. By way of contrast, idiosyncratic, relational resources such as trust and goodwill have been seen to enable the effective governance of cooperation and to provide a sustainable source of competitive advantage (Barney and Hanson, 1994; Lado *et al.*, 1997; Dyer and Singh, 1998; Kale *et al.*, 2000).

To conclude, the relational view draws attention to interfirm cooperation as a source of competitive advantage by taking interfirm relationships as the unit of analysis. It focuses solely on the relationship level, which is its main distinction with respect to earlier schools. It can provide an independent explanatory set that identifies competitive advantage caused by differences in the attributes of the relationships themselves and not, for example, the resources of a single firm (Molina and Dyer, 1999).

2.4 A summary of the three strategy schools

The previous sections reviewed different perspectives on gaining and sustaining competitive advantage. The basic tenets of each school are summarized in Table I.

In sum, the concept of (sustainable) competitive advantage is most often defined as (sustainable) superior performance. According to IOE, Chamberlinean or monopoly rents derived from market power and the industry structure are considered to comprise

	IOE	Resource-based theories	The relational view
Unit of analysis	Industry structure	Internal resources and capabilities of the focal firm	Interfirm relationships
Nature of rents	Chamberlinean/monopoly	Ricardian and Schumpeterian	Relational
Source of competitive advantage	Relative position in the industry	Valuable and rare resources and capabilities	Relation-specific assets, knowledge-sharing practices, complementary resources, and effective governance
Source of sustainability of competitive advantage	Barriers to entry	Barriers to imitation	Network barriers to imitation
The role of interfirm cooperation	Source of market power	Source of complementary resources and capabilities	Main source of competitive advantage

Table I.
Theoretical approaches to competitive advantage

the most important factor with regard to sustaining competitive advantage. Interfirm cooperation could be a source of market power, and the IOE perspective facilitates understanding of the relative positions of the focal firms, its partners, and its competitors.

Resource-based theories focus on the resources and capabilities of the focal firm; Ricardian or efficiency rents are based on valuable and rare resources, and sustainability relies on their imperfect mobility and inimitability. Schumpeterian rents refer to the above-normal returns gained and sustained by renewal and innovation. According to the resource-based theories, interfirm cooperation may be a source of complementary resources and capabilities that the firm can access or acquire in order to form unique pools of distinct resource configurations that give it competitive advantage.

Finally, according to the relational view, interfirm cooperation is the source of relational rents. Competitive advantage is based on relation-specific assets, knowledge-sharing practices, complementary resources, effective governance, and network barriers to imitation help to sustain the advantage.

So far, we have reviewed three schools of strategy separately. Next we proceed to discuss how they interact with each other with regard to interfirm cooperation.

3. Complementary rather than conflicting theories

3.1 Shared heritage

In our view, the three strategy views presented in the preceding sections have each been developed in order to counter the main criticisms and weaknesses of earlier theories. For example, the main criticism against IOE is its emphasis on industry rather than on the individual company (Foss, 1996). Barney (1991) criticized Porterian strategy research for the assumption that the resources of individual companies in an industry are homogenous and that all resources are easily acquired from the markets. Subsequently, the resource-based theories shifted the focus of strategy research onto internal resources and capabilities. Likewise, the traditional resource-based theory was seen as too stable and introspective, so the dynamic capabilities' view expanded the horizon to include a more dynamic environment. Finally, the relational view emphasizes interfirm relationships as the unit of analysis, which is partly missing from earlier theories.

Examination of the theoretical suggestions behind the relational view reveals its intellectual linkages with transaction cost economics, the RBV, and the KBV.

We also think it is worth noting that while the newer theoretical streams were introduced in order to overcome some of the weaknesses of the preceding ones, they are all built on existing theories and carry their heritage within them. Many researchers (Wernerfelt, 1984; Mahoney and Pandian, 1992) consider IOE and the resource-based theories complementary. Long ago, Penrose (1959, p. 79) noted that environmental changes had an impact on the significance of the resources of the firm. On the other hand, Porter (1991) considered resources an important supporting – not substituting – aspect of strategy research, and Conner (1991) noted that the resource-based theories reflected a strong industrial organization heritage. This is all in line with the views put forward by Barney (1991), who claimed that these approaches covered different domains of application within the context of the traditional strengths, weaknesses, opportunities, threats (SWOT) analysis: the resource-based theories focusing on the internal “strengths-weaknesses” analysis, and industry analysis providing the “opportunities-threats” part. We also find that the relational view does not conflict with earlier theoretical contributions and agree with Molina and Dyer (1999) who see it as an explanation that complements the resource-based perspective.

In the following, we briefly explore each of the explanations of competitive advantage in the context of interfirm cooperation and in relation to other views addressed in this paper. Our aim is to show that each one of the theories shares major synergistic aspects with the others and that this increases their explanatory power concerning competitive advantage in interfirm cooperation.

3.2 How does each theory complement the other perspectives?

IOE is concentrated on the firm’s position and power in the markets in relation to other players. As mentioned earlier, it is evident that resource-based perspectives have been built up to complement IOE analysis. For example, a classical Porterian differentiation strategy is naturally possible for a firm with unique resources and capabilities that differentiate it from other firms. The idea is to increase the number of suppliers in order to enhance its relative bargaining power against them. However, in the context of interfirm cooperation regarding the supply of more strategic products or services (or resources), it is not economically feasible to have dozens of alternative suppliers. By way of contrast, according to the relational view, only a small number of suppliers are needed with which the firm will invest in relationships-specific assets and knowledge-sharing routines in order to enhance performance (Dyer and Singh, 1998). Dyer and Hatch (2006) found in their empirical research that a firm with a supplier network that is identical to that of its competitors is able to achieve competitive advantage by leveraging relation-specific capabilities such as knowledge sharing. Consequently, analysis from the relational perspective may explain why firms do not always need to maximize their bargaining power against other players. This complements the IOE perspective and promotes a more comprehensive approach to the achievement of competitive advantage through interfirm cooperation.

Resource-based theories are concentrated on the firm’s unique resources and capabilities. However, industry analysis matters and is complementary in terms of explaining competitive advantage. When an industry’s entry barriers are low and the competition intensifies, the firm needs to develop highly distinctive resources

and capabilities with its cooperative partners in order to beat its rivals. Furthermore, when used to explain interfirm cooperation, resource-based theories are still fundamentally concentrated on analyzing a single firm's competitive advantage. Thus, according to Duschek (2004), their shortcoming is that they have focused mainly on utilizing interfirm cooperation as "competitive collaboration" (p. 60). Consequently, they could be complemented with explanations reflecting the relational view, which focuses on the rents coming from the relationship itself. Furthermore, according to Dyer (Molina and Dyer, 1999), such explanations cannot be substituted by "revising some of the principles behind the RBV." It is evident that a source of competitive advantage stemming from interfirm cooperation should also be analyzed from the relationship as well as the firm perspective in order to assess its full potential.

The relational view has represented the greatest single theoretical effort to understanding competitive advantage in interfirm cooperation so far, and indeed, it is better equipped than other views to explain performance differences in how certain firms utilize interfirm cooperation (Dyer and Hatch, 2006). However, it is very difficult, if not impossible, to focus solely on the relationship as a unit of analysis when examining competitive advantage in interfirm cooperation. According to Duschek (2004), the relational view (and network perspectives in general) is yet underdeveloped because it tends to neglect the organizational level and the significance of the resources of embedded single-network firms. Firm-level factors have an effect on a firm's actions in its relationships, and the relationships also have an effect on its resources and capabilities (such as in learning alliances, Hamel, 1991). Thus, there are major difficulties in explaining whether the competitive advantage of interfirm cooperation comes from the firm's resources and capabilities of managing relationships or from the relationships themselves.

For example, Ireland *et al.* (2002) suggest that alliance management can be a source of competitive advantage. Is this capability a function of a single firm or is it embedded in each unique relationship? A common-sense answer is that it is both. Alliance management (or collaboration capability in general, Miles *et al.*, 2000) is definitely a unique and rare firm resource that is hard to imitate. However, according to the relational perspective, each relationship can bring competitive advantage just because of its unique attributes. This makes distinction between the resource-based and relational views rather difficult, as they both offer adequate explanations. Consequently, it could be said that they always support rather than compete against each other when they are used to explain a firm's competitive advantage in interfirm cooperation.

4. Towards an integrated paradigm

It seems from the above discussion that none of the theoretical perspectives, given their current state, can solely explain the sources of competitive advantage in interfirm cooperation. All in all, we agree with Teece *et al.* (1997) and Foss (1999), who maintain that complex problems are likely to benefit from insights provided by multiple paradigms. In our view, this is the case when competitive advantage is considered in the context of interfirm cooperation. Such complexity derives from the fact that there are multiple and independent parties involved in the analysis. Thus, an understanding of the firm's own strategy, processes, and actions is not even nearly enough. The large group of other actors involved in the formation and existence of distinct competitive advantage also calls for an understanding of the industry structure and of the strategies,

processes, and actions of all of the firms' cooperative partners. In the following section, we present arguments in favor of combining these three perspectives in order to obtain a deeper understanding of the sources of competitive advantage in interfirm cooperation.

In previous sections, we explored different explanations of competitive advantage in the context of interfirm cooperation and claimed that they could be significantly complemented with the two other theories available. Indeed, it is hard to come up with a convincing argument why only one theory should be preferred over another in such an analysis. To be sure, one distinct theory might have greater explanatory power than others, in some instances, which is very logical given the complexity of the subject. However, the firm, industry, and relational levels of analysis are not mutually exclusive, especially in analyses of the sources of competitive advantage in interfirm cooperation. In claiming this, we recognize that their juxtaposition in earlier literature has been important in terms of finding better and better explanations. It should be noted, however, that this juxtaposition has mainly served the purpose of advancing the whole concept and not specifically in the context of interfirm cooperation.

Table II presents the different levels of analysis and their key determinants with respect to gaining competitive advantage in an environment that is highly dependent on interfirm cooperation. First, the industry level is needed in order to shed light on the relative positions of the focal firm, its partners, and its competitors in the markets; market power and the potential changes in it determine the effect on interfirm cooperation in a given industry setting. Second, the firm level is needed in showing how a firm can utilize both internal and external valuable, rare, inimitable, and non-substitutable resources and capabilities in order to gain competitive advantage. In particular, firms use interfirm cooperation to access and acquire resources and capabilities from other firms in order to complement their own resources, thus forming a pool of resources that creates more value for a firm than if resources were used separately (Das and Teng, 2000; Grant and Baden-Fuller, 2004). Naturally, firms also need to have distinct resources and capabilities of their own that define their competitive advantage even when interfirm cooperation is widely utilized. These resources and capabilities have to be understood as well in order to analyze what is the distinctive position of the firm on its own. However, some of these capabilities may help them to exploit cooperation more effectively (e.g. absorptive capacity, Cohen and Levinthal, 1989 and alliance management capability, Ireland *et al.*, 2002). Third, the relationship level is needed when the focus is on resources and capabilities that are distinctive of a specific relationship and cannot be explained in terms of industry- or firm-level attributes. These resources and capabilities, or routines, practices, and other attributes, are distinctly formed and situated at the relationship level. This means that, given a unique relationship setting with certain firms, relationship performance may have an effect on

Table II.
Industry, firm, and
relationship determinants
of competitive advantage
in interfirm cooperation

Level of analysis	Key determinants
Industry	Relative positions in the industry and market power (focal firm, partners, and competitors)
Firm	Firm-level VRIN resources and capabilities (internal and complemented resource pool)
Relationship	Resources and capabilities distinctive to a specific relationship (dependent of all parties)

the competitive advantage of a single firm. This is because each relationship between heterogeneous firms is indeed itself heterogeneous and hard to imitate with respect to all other relationships between all other firms.

Including the relationship level in attempts to further understanding of competitive advantage in interfirm cooperation is an interesting addition to the prevailing strategy paradigm. The implications derived from our analysis suggest that traditional SWOT analysis could be extended to the context of cooperating with other firms. Relational aspects could also be included in order to complement the internal “strengths-weaknesses” dimension and the “opportunities-threats” part of the industry analysis (Table III). These aspects cannot be put under the strengths and weaknesses of a single firm, nor under opportunities and threats concerning the firm’s external environment. Analytically, the relationship attributes are situated somewhere between the internal and external perspectives of the SWOT analysis. For instance, they are something that a firm can partially manage and assess to the extent that relationships are manageable by the efforts and capabilities of a single firm. Second, they have external elements, which cannot be controlled or predicted because other economic actors make their own, to some extent unpredictable decisions. We call these new dimensions relationship potential and limitations. Relationship potential is related to the unique relationship-specific capabilities and processes that enable the gaining of supernormal rents. Relationship limitations are the opposite: they comprise the inefficiencies and the possible-related risks, such as opportunism, free riding, and other hazards.

In order to illustrate the applicability of the enlarged SWOT analysis, we will briefly consider two well-known business cases: Toyota’s networked business model (Dyer and Nobeoka, 2000; Liker and Choi, 2004; Dyer and Hatch, 2006) and the “Wintel” partnership (Casadesus-Masanell and Yoffie, 2007).

Toyota is known for its unique capability of managing its supply network, which gives it competitive advantage over its Western rivals. In particular, the company has created a way of managing the “Toyota Group” – a network consisting of Toyota and its numerous suppliers – so as to facilitate knowledge sharing and subsequent network-wide efficiency and quality improvements far more effectively than its US rivals. In terms of strengths, the capability of creating and managing a high-performance network can be intuitively placed on the firm level: Toyota, indeed, seems to be better at communicating its vision and creating common rules among its suppliers. Opportunities and threats in this context concern firm-external issues such as competitive pressures from other car manufacturers, changes in emission regulations, and changing customer preferences (all of which Toyota has coped with very well recently).

The success of Toyota cannot be solely explained by these factors, however. According to Dyer and Hatch (2006), in practice the company has identical production inputs and an identical supplier network compared to its competitors in the USA. However, it has managed to create inter-organizational routines not only with its suppliers, but also between them (supplier to supplier), which has contributed to a significantly larger reduction in defects and improved quality with respect

Internal	Relationship	External
Strengths	Potential	Opportunities
Weaknesses	Limitations	Threats

Table III.
Extended SWOT
analysis in the context of
interfirm cooperation

to its major rivals such as GM, Ford, and Chrysler. These routines and related improved quality would be categorized as network potential in our framework and would not be revealed in a traditional internal-external-focused SWOT analysis. Thus, interfirm cooperation could provide a complementary and independent explanation of the success of Toyota in US markets.

Second, let us consider Intel, which is constantly developing faster and more adaptive microprocessors for personal-computer markets. The operating systems provided by Microsoft constitute a natural complement of Intel's microprocessors. The more computing power the new Windows operating systems demand, the more the customers are willing to invest in more powerful microprocessors supplied by Intel. This interconnection also works the other way around. However, the Wintel "partnership" is far from harmonious in that conflicts have emerged overpricing, the timing of product releases, and the capturing of value at different phases of product generations (Casadesus-Masanell and Yoffie, 2007). In particular, while it is in the interest of both firms to sell new and improved products to the same and new customers, Intel wants to introduce new processors earlier and would also prefer Microsoft to follow the introduction with new operating systems. Microsoft, however, will also gain profits by selling its operating system to the installed base of customers who upgrade from older systems, and this process does not match the pace of Intel's microprocessor releases. From the perspective of Intel, it is clear that there is substantial relationship potential between Intel and Microsoft, but there are also relationship limitations (e.g. differences in the optimal timing of product introductions) that cannot be controlled. Explicit inclusion of such aspects in the analysis of Intel's competitive advantage would produce a more holistic and detailed view than traditional internal-external analysis could achieve.

The above examples of Intel and Toyota illustrate the complexity of analyzing competitive advantage in the context of interfirm cooperation – it is not enough to know the firm's own and its partners' capabilities, and the competitive environment – the firm also has to recognize the strategic interaction between them, and the larger context in which they are embedded.

5. Conclusions

The main contribution of this paper lies in its analytical approach to competitive advantage in the networked economy. Traditional strategic perspectives (resource-based theories and IOE) cannot properly explain sources of interfirm competitive advantage. Moreover, the latest strategy development, the relational view, also lacks some essential aspects. We propose that relational attributes should be taken into the internal and industry analysis in order to obtain a complete picture of cooperative strategy and to gain complementary explanations rather than contradictory theorizing. We use the concept of a refined SWOT analysis to illustrate our proposal to integrate relational attributes into this classical framework.

We argue that competitive advantage in interfirm cooperation would greatly benefit from the utilization of multiple units of analysis. If competitive advantage is defined as the ability to outperform the other players in the industry, it is important to understand its industry-, organizational-, and relationship-level determinants. For example, the force of monopoly rents cannot be disputed when such rents are available. However, nowadays such rents are scarce because of increasing competition and deregulation in all areas of business. The more complex, competed, and transforming

the environment in which the firm is embedded, the harder it is for it to gain competitive advantage. In such situations, it must possess unique resources and capabilities inside and outside its borders, and constantly develop and create new capabilities of the same kind. Thus, the sources of (sustainable) competitive advantage are highly dependent on the industry, organizational, and relationship settings in which the analyzed firm is embedded.

Managerial implications of this study can be summarized with the refined SWOT analysis sketched in Table III. For managers, it is important to understand what are the strengths and the weaknesses of the firm, and what are the opportunities and threats coming from the firm's environment. Both aspects of SWOT analysis are partly applicable to analyzing how to cope in cooperative relationships with other firms. An understanding of the firm's own capabilities facilitates successful decision making about with whom and when to partner. Managers who fully comprehend the firm's competitive and other environments are able to make sound decisions related to its relative positions and roles and those of its (potential) partners. However, managers should, in addition, carefully assess the aspects of each unique cooperative relationship in which the firm is engaged. In so doing, they will gain an understanding of the potential and the limitations of its relationship network. As the Toyota and Wintel cases show, the relationships themselves do make a difference to the firm's success. Thus, the "new SWOT" described in this paper will help managers to obtain an enhanced view of the competitive advantage of a firm in modern economy.

This analysis is affected by several limitations. First, due to the immense theoretical scope of the different perspectives presented herein, there are certainly some aspects of and contributions to each theory that we have not addressed. In addition, the very theoretical foundations of the theories overlap at a number of points in time, so it is hard to make explicit distinctions between them. This might have caused some simplification on a few points. For example, numerous papers related to interfirm networks lean theoretically on the KBV and related theories (e.g. learning, and knowledge sharing and creation in networks), which makes them, in analytical terms, spill over the boundaries of the theorizing streams presented in this paper (Powell *et al.*, 1996; Möller and Svahn, 2006). In our opinion, however, these contributions could be categorized together with some or all of the explanations of competitive advantage presented in this paper. Thus, we believe that the views presented could also be useful in terms of furthering understanding and analysis of these contributions on the different analytical levels of (sustainable) competitive advantage.

Further studies could consider competitive advantage from multiple perspectives. In order to enhance understanding of the rent-generation logics of the modern networked economy, it would be useful to explore it in the context of complex issues such as "coopetition" (Brandenburger and Nalebuff, 1996) and "open innovation" (Chesbrough, 2003). Producing an integrated or unified explanation of its industry-, firm-, and relationship-specific factors is not a simple task due to the different evolutionary paths of the different perspectives. Nevertheless, in order to achieve a more holistic picture, efforts should be made to integrate the sources of relational competitive advantage into the existing theories. Such efforts have already been manifested in some way in the form of the relational view (Dyer and Singh, 1998), for example. However, as the above discussion shows, we have yet to find such a definitive theory. It is another question whether such a theory is really needed and whether researchers should strive to further

clarify the complementary roles of the current frameworks. Further studies should continue to seek solutions to these problems. In addition, the SWOT conceptualization developed in this paper should be further elaborated and empirically tested in further studies. This could be done through an in-depth case study (with an emphasis on different levels of competitive advantage) or by means of a quantitative survey linking these issues to performance measures.

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