Untangling the value-creation and value-appropriation elements of coopetition strategy: A longitudinal analysis on the firm and relational levels

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Summary Collaboration among competing firms (i.e., coopetition) highlights the co-existence of value creation and appropriation due to the simultaneity of competition and collaboration in the relationship. As a consequence, there may be firm- and relationship-level differences in a coopetition strategy in terms of how the partners create and realize value. However, the research on this issue is still scarce, on both the theoretical and the empirical levels. In order to narrow this gap, this study develops a conceptual framework of value creation and appropriation in coopetition, and analyzes this in light of an exploratory longitudinal case study of the relationships and interactions of four Finnish manufacturing firms. The results show that relational- and firm-level coopetition strategies differ notably in terms of value-creation and -appropriation objectives, and that they evolve over time. There are also evident differences in firm-specific strategies, illustrating the multifaceted nature of the managerial challenges inherent in coopetitive networks.

Keywords Coopetition; Co-opetition; Value creation; Value appropriation; Strategy; Relationship; Network

Introduction

Firms are increasingly engaging in collaborative relationships and networks in order to create value that they could not achieve by operating alone. Therefore, firms need to take into account the relational context when formulating business strategies (Håkansson & Snehota, 1989; Håkansson & Ford, 2002; Adner, 2006). However, the benefits linked to a particular collaborative relationship are not always fully aligned with individual, firm-specific strategic objectives (see e.g., Khanna et al., 1998; Dyer et al., 2008). Thus, although firms need to take into account the "relational strategy" that maximizes the value created in its collaborative relationships (Dyer & Singh, 1998), they should simultaneously follow their own strategic, value-appropriation objectives in order to remain competitive as individual entities. General management research has thus far paid very little attention to address this challenging phenomenon. In fact, although both value creation and appropriation (also called capture) are often mentioned in the research on alliances and networks, very few studies address them

explicitly, and most tend to focus on the value-creation side of the equation (e.g., Möller et al., 2005; Möller & Rajala, 2007; Fjelstad et al., 2012). In particular, there have been calls for further research on integrating value appropriation into the analysis of value creation, both on the alliance level (for a discussion, see e.g., Lavie, 2007; Adegbesan & Higgins, 2010) and the network level (for a discussion, see e.g., Pitelis, 2012; Fjelstad et al., 2012).

The contradiction between value creation and appropriation is especially pronounced in collaboration between competitors, in which collective value creation and individual value appropriation are pursued within the same relationship (see e.g., Brandenburger & Nalebuff, 1996; Ritala & Hurmelinna-Laukkanen, 2009). The type of relationship, which involves simultaneous collaboration and competition between two or more horizontal actors, is widely conceptualized as *coopetition* in business and management research, and is recognized as a research agenda in its own right (see e.g., Bengtsson & Kock, 2000; Walley, 2007). As a specific feature, simultaneity of value creation and appropriation – and competition and collaboration – clearly sets coopetition apart from other types of interorganizational relationships and networks. Coopetition may offer the potential to reap large benefits related to innovation, cost cutting, and performance (Luo et al., 2007; Gnyawali & Park, 2009; Peng et al., 2012), but it also carries major risks. In fact, it has been shown that conflicts or mismatches indeed emerge between firm-specific and relational strategies (see e.g., Hamel, 1991; Tidström, 2009), and that coopetitive relationships have a tendency to end in failure more often than other types of relationships (Park & Russo, 1996). Brandenburger & Nalebuff (1996) illustrate this inherent contradiction in defining the objective of coopetition as "to create a bigger business pie, while competing to divide it up". Case examples give evidence of the inherent likelihood of tension in coopetitive relationships, even in the most successful ones. As a classic example, Hamel (1991) describes how US car manufacturers eventually lost competitiveness to their Japanese rivals over the course of long-term collaboration in US markets. Gnyawali and Park (2011) give a recent example of the very profitable collaboration between the major consumer-electronics rivals Sony and Samsung in developing and manufacturing LCD TVs, despite some internal tensions concerning value appropriation in various phases of the relationship.

The simultaneous existence of value creation and appropriation is explicitly recognized in the research on coopetition, which in this sense has already pursued to address the above-mentioned research gap in the literature on alliances and networks (see e.g., Brandenburger & Nalebuff, 1996; Gnyawali & Park, 2009; Ritala & Hurmelinna-Laukkanen, 2009). However, we suggest that objectives and strategies related to value creation and appropriation are formed on both the firm and the relationship levels, and that this issue has not thus far been examined in the context of coopetition. Given that coopetitive relationships involve both firm-specific and relational motives, we suggest that a need exists for analyses of value-creation and appropriation strategies on both levels. Thus, we argue that there is an explicit conceptual and empirical gap in the coopetition literature concerning this issue. Andersen and Fjelstad (2003, p. 406) explicitly point this out in asking how actors engaged in coopetition can deal with situations in value systems when no actor is closer to the customers than any other (i.e., when there is a conflict between value creation and appropriation). In the same vein, Ritala and Hurmelinna-Laukkanen (2009, pp. 826–827) in their conceptual study highlight the need for in-depth case-study research that would enhance understanding of how collective value creation and individual value appropriation take place in coopetition. Finally, Gnyawali & Park (2009, p. 325) suggest that in order to understand the paradoxical nature of coopetition more deeply, future research should address the phenomenon not only on the firm level but also on broader levels of analysis including multiple actors.

In order to address the above-mentioned research gaps, we investigate the following research question: *How is value created and appropriated in a coopetitive network, and how does this differ in the firm- and relational-level strategies of participating actors?* Our objective and intended contribution are both theoretical and empirical. First, we formulate a conceptual framework of value-creation and -appropriation objectives for relational and firm-level coopetition strategies. Second, we examine this issue empirically in a longitudinal case study of a coopetitive network involving four Finnish manufacturing companies. The role of the case study is exploratory in the sense that it serves a purpose of illustrating the proposed theoretical framework, and the results should be interpreted accordingly. We believe that the chosen qualitative approach is warranted in this case given the sensitivity of the research topic and the implicit nature of the objectives of value creation and appropriation, which is not clearly visible outside the companies' boundaries. The results of the study will help to improve theoretical and empirical understanding of these elements of a coopetition strategy, and will thus be of assistance to researchers and practitioners interested in creating value-driven strategies for networked collaboration between competing firms.

In the following sections we briefly review the research discussing value creation and appropriation in coopetition, and develop a conceptual framework of relational- and firm-level strategies in this context. We then discuss our research methods, and report a longitudinal case study focusing on coopetition. After that we present the results of our analysis of the firms' relational and firm-level strategies, and their value-related objectives. The final section comprises a discussion of the results and their implications.

Value creation and appropriation in coopetition

Value and its creation and appropriation are central concepts in management research (Teece et al., 1986; Bowman & Ambrosini, 2000; Pitelis, 2009), as well as in the research on alliances and networks (Möller et al., 2005; Dhanaraj & Parkhe, 2006; Lavie, 2006; Dyer et al., 2008; Capaldo & Petruzzelli, 2011; Pitelis, 2012). *Value* in economics can be formally defined as the willingness to pay from the end-customer perspective (Brandenburger & Stuart, 1996). *Value creation* refers to activities that increase the amount of such value – independently of the context and level of analysis. *Value appropriation*, on the other hand, refers to the activities that capture a certain amount of the value that has been created – again, independently of the context and level of analysis.

As a specific stream, coopetition research has highlighted the simultaneous existence of value creation and appropriation, which are connected to collaboration and competition – the definitive elements of the concept. In fact, the seminal contributions to the research, grounded in game theory, make these issues very explicit on the conceptual level (Brandenburger & Nalebuff, 1995, 1996). It could be argued that coopetition is a specific type of relationship in which the actors need to handle simultaneously value creation in the same domain in which value appropriation takes place, and is therefore different from collaboration between non-competitors (Ritala & Hurmelinna-Laukkanen, 2009). This aspect creates a need to incorporate value creation and appropriation within the same analyses, which does not apply to the same extent in other types of relationship.

In coopetition research, it is often suggested that firms collaborate in order to create value and then compete against each other for the value that has been created, and that value creation usually happens far away from the customers whereas competitive value appropriation occurs

near customers (e.g., Bengtsson & Kock, 2000; Walley, 2007). Although such logic holds in many cases, several empirical studies report that value creation and appropriation may overlap, and the respective emphases can shift back and forth during the coopetitive relationship (e.g., Ritala et al., 2009; Gnyawali & Park, 2011). Thus, we suggest that they are interconnected phenomena with different emphases and roles depending on the progress of the relationship and the network over time. In the following subsections we discuss, separately, the general logic behind value creation and value appropriation in coopetition, and then analyze these processes from the relational and firm-level strategic perspectives.

Value creation

Various motives drive value creation in inter-firm networks, ranging from supply-chain efficiency to innovation, but the common denominator is the utilization of the network to find various types of value-creating synergies (see e.g., Kothadaraman & Wilson, 2001; Möller & Rajala, 2007), which eventually improve the potential of the created value for the end customer. In the case of coopetition, value creation takes place through integrating complementary and supplementary resources among competitors with the aim of creating a higher value than would otherwise be possible (Bengtsson & Kock, 2000; Gnyawali & Park, 2009). Although the aforementioned logic holds for any type of alliance or network (e.g. Das & Teng, 2000), coopetition includes specific positive and negative implications in terms of value-creation potential, as discussed in the following.

The most obvious benefit of coopetition as far as value creation is concerned lies in the shared market context, which relates to similar positioning in the industry in terms of both resources and customers (Chen, 1996). This gives competitive partners a broader common understanding of the industry's business logic and technologies, which makes knowledge sharing more fluent (Lane & Lubatkin, 1998; Dussauge et al., 2000) and therefore potentially enhances resource integration. A further potential benefit is enhanced market creation in networked settings through agreement on the common principles, platforms, and standards that foster functioning and growth of markets (Fjelstad et al., 2004; Ritala et al., 2009; Choi et al., 2010).

On the other hand, opportunism concerns related to the competitive positioning of the firms involved may negatively affect this value-creation potential. Such concerns could reduce collaborative knowledge exchange and lead to overprotectiveness with regard to knowledge and resources (Hamel, 1991; Ritala & Hurmelinna-Laukkanen, 2009). Furthermore, the potential existence of opportunism on the competitors' parts may lead to the nonutilization of available collaboration opportunities, which decreases overall value-creation potential.

Value appropriation

Although value appropriation eventually takes place on the firm level (i.e., it shows on the bottom line), the processes leading to it may be both network- and firm-related. For instance, competing firms tend to form alliances and networks that compete against other coalitions (e.g., Lado et al., 1997; Gueguen, 2009; Choi et al., 2010). Thus, various coopetitive networks, as well as different firms in these or other networks, may be competing for the appropriated value. Analyses of coopetition should therefore take into account the competitive element insofar as it affects value appropriation either directly (direct competition for the created value) or indirectly (the potential for future competition). These divergent value-appropriation objectives between firms and networks reduce the amount of value available to an individual actor, and may also cause conflicts in coopetition (e.g., Hamel, 1991; Park & Russo, 1996; Tidström, 2009).

However, there are differences in terms of whether value appropriation follows zero-sum logic or positive-sum logic from the point of view of the participants in a given coopetitive setting (Ritala, 2009). In other words, some value-appropriation attempts decrease the value that the other firms involved can capture (zero-sum logic), whereas others focus on value that allows the other parties to capture the same or parallel value (positive-sum logic). Similarly, Bengtsson et al. (2010) suggest that the competitive component of coopetition ranges from confrontational, hostile activities to collusive, nonconfrontational activities.

The zero-sum logic of value appropriation focuses on direct competitive activities such as price competition and aggressive marketing (Ritala, 2009; Bengtsson et al., 2010). When a coopetitive relationship involves this type of logic, the objectives of the actors are in direct conflict, in which case the coopetition could be described as confrontational, with an emphasis on beating the collaborating competitors (Bengtsson et al., 2010). Positive-sum logic, on the other hand, implies differentiation between the competitors' offerings in the current markets or the exploration of growing markets in which just a few firms could not appropriate all the value (Ritala et al., 2009; Choi et al., 2010). This type of coopetition involves the optimization of value-appropriation objectives in competing firms such that they do not collide, but focus more on each actor's differentiated key capabilities. Positive-sum logic within a certain setting may also involve capturing share of value from other competitors outside the network, or from other coopetitive networks.

It should also be noted that not all firms are equally capable of appropriating the value that is created in coopetitive relationships. Differences in bargaining power and in unique resources and capabilities determine the relative value-appropriation potential in any type of relationship (Lavie, 2006; Dyer et al., 2008; Adegbesan & Higgins, 2010). Thus, partners in coopetition differ in the extent to which they can capture/negotiate value from others (zero-sum logic) or appropriate value in markets otherwise (positive-sum logic).

A framework depicting relational and firm-level strategies in coopetition

In general, when a firm joins alliances and networks, it essentially follows two levels of strategy: the *relational level* and the *firm level*. The former is built on through an interactive process involving different organizational actors (see e.g., Håkansson & Snehota, 1989; Håkansson & Ford, 2002; Dhanaraj & Parkhe, 2006), and refers to the collaboratively planned activities aimed at achieving the "relational rents" that are distributed among the involved actors (Dyer and Singh, 1998; Lavie, 2006; Dyer et al., 2008). Relational level strategy thus pursues an increase in the created and appropriated value for the whole set of actors within the relationship. On the other hand, the firm-level strategy is formulated within the firm, and focuses on utilizing external relationships in order to create value for the firm itself and its customers, and to eventually reap profits through leveraging the alliances and networks in which it is embedded (see e.g., Gulati, 1998; Schreiner et al., 2009). Lavie (2006, p. 644) explicitly points this out in suggesting that the internal rent (value) appropriated by the firm is linked to its utilization of the complementary resources and capabilities residing in its alliances/networks, but only the firm can affect its eventual appropriation in the firm-level. Supporting this thinking, it has been suggested that the firm-level strategy may relate to increasing the negotiated or competed-for share of relational rents (Dyer et al., 2008; Adegbesan & Higgins, 2010).

According to Rusko (2010, p. 312), one of the main motives behind coopetition is to create greater value, which means improving the performance of participating companies "through coopetitive moves." These coopetitive moves – or *strategies* – are likely to be driven by both relational and firm-level strategic objectives, as described in the previous paragraph. In terms of coopetition, both types of objective are more highlighted than in relationships between noncompetitors. This is because coopetition, by definition, is based on a *partially convergent interest structure*, given the existence of competition and collaboration in the same relationship (Padula & Dagnino, 2007). Therefore, it makes a difference whether the coopetition-related value is created on the level of an individual firm (e.g., when a firm can utilize the available resources and capabilities in its own value creation) or of the whole coopetitive network (e.g., when resources and capabilities create synergy, which in turn creates more value for all network actors). Similarly, there is a difference in terms of whether value is appropriated on the firm level (e.g., an individual firm manages to create better offerings or reduce its costs because of coopetition) or on the relational level (e.g., the whole coopetitive network enjoys cost reductions or competitive advantages against other networks).

Although it is acknowledged in the existing research on coopetition that objectives related to value creation and appropriation may be in conflict in that mutual and individual objectives do not always converge (e.g., Padula & Dagnino, 2007; Ritala & Hurmelinna-Laukkanen, 2009; Tidström, 2009), no available analyses take this into account on the two levels of strategy, as outlined above. In fact, a common approach in the earlier literature on coopetition was to connect value creation with a relational strategy and value appropriation with a firm-level strategy (e.g., Oliver, 2004; Ritala & Hurmelinna-Laukkanen, 2009). Although such logic is compelling and often quite intuitive, it may oversimplify the situation. We suggest that both value creation and value appropriation are affected by relational and firm-level strategies in various ways. We also posit that the interplay of these concepts is dynamic in that both evolve over the course of the relationship, and that this is likely to have effects on relational as well as firm-level strategies. Indeed, the emphasis on collaboration or competition may vary over time in different coopetitive relationships (Bengtsson & Kock, 2000; Padula & Dagnino, 2007), which affects the evolution of value creation and appropriation. This form of temporal dynamics is visible in many recently reported cases of coopetition (see e.g., Roy & Yami, 2009, on the French movie industry; Gnyawali & Park, 2011, on collaboration between Sony and Samsung; and Ritala et al., 2009, on the development of Finnish Mobile TV).

Coopetition and a relational strategy

A relational strategy concerns all actors in a relationship or a network, and is connected to the mutually agreed-upon goals of the coopetition from both the value-creation and value-appropriation perspectives (Dhanaraj & Parkhe, 2006). We follow Möller et al. (2005) and Möller and Rajala (2007) in our analysis, focusing on the "value system" around the relational network. This type of approach is needed in order to enhance understanding of the whole context in which value-creation and value-appropriation objectives are designed, set, and pursued. The "value system" of a coopetitive relationship includes the collaborating horizontal actors as well as the overall network in which they are embedded. Thus, our study focuses explicitly on the coopetition strategies and relationships among the analyzed actors, and on the implications of these phenomena for value creation and appropriation within the broader value system.

In terms of value creation, a starting point in coopetition is "enlarging the business pie" (Brandenburger & Nalebuff, 1996), and a relational strategy is needed in order to organize and align the joint activities in that direction. To this end, the relational strategy sets the vision for

the value-creation objectives in accordance with the common goals related to creating value in the markets, which is a fundamental driver of coopetition (e.g., Choi et al., 2010). In practice, the value created in this context is the result of combining both supplementary and complementary resources among competitors (Gnyawali & Park, 2009; Ritala & Hurmelinna-Laukkanen, 2009).

A relational strategy also sets *the boundaries of the value-appropriation* objectives for the whole coopetitive network, referring to the commonly agreed-upon principles that stipulate how value is to be captured and potentially divided in the future. For example, firms might agree on how their offerings are to be diffused in the markets in a compatible way (Spiegel, 2005; Mione, 2009), how they are marketed and promoted (Ritala et al., 2009), and how to ensure that the collaboration is cost-effective for all those involved. However, it should be borne in mind that firms might differ in their "relative ownership" of the created value (Dyer et al., 2008; Adegbesan & Higgins, 2010).

Coopetition and a firm-level strategy

On the level of the firm, the strategy sets out the vision for the value-creation and value-appropriation objectives from its own perspective, and can be more or less aligned with the relational strategy. However, a distinction should always be made given that common and private benefits may well differ in alliances and networks (Khanna et al., 1998), and especially in coopetition (Ritala & Hurmelinna-Laukkanen, 2009).

Firm-level *value creation* in coopetition rests on combining the firm's and its competitors' resources in the context of its own strategic objectives. The motivation to do this relates to potential firm-level goals such as increasing customer value, sharing costs and risks, and opening up new marketing channels (e.g., Luo, 2004).

Value-appropriation objectives, on the other hand, are directly connected to how the firm can pursue its own strategic objectives by utilizing its own resources and capabilities, and eventually achieve competitiveness in the marketplace. Firms in coopetition tend either to focus on non-rival value-appropriation objectives from a positive-sum perspective, or to pursue rival objectives from a zero-sum perspective (Ritala, 2009). The former approach does not collide with the objectives of other participants, but the latter may directly lower the value available to others. Similarly, Bengtsson et al. (2010) suggest that the competitive element in coopetition may be directly confrontational, or at the other extreme, collusive, meaning that competition is avoided completely. In practice, coopetition often entails both zero-sum and positive-sum logics within the same relationship or network (Padula & Dagnino, 2007). Some network participants are likely to pursue one or the other logic at different points in time, thus there are likely to be differences between firms in this regard: the larger the network, the higher the heterogeneity in objectives.

An integrative framework of coopetition strategy, objectives, and logic for value creation and appropriation

Table 1 outlines our conceptual framework of relational and firm-level strategies in coopetition, in accordance with the discussion thus far. On both strategic levels, the table outlines the value-creation and value-appropriation objectives, as well as the respective logics summarizing the discussion on *how* these objectives can be pursued.

Table 1. *Relational and firm-level strategies in coopetitive networks*

	Relational strategy	***Firm-level strategy***
Value-creation objectives	Leveraging the coopetitive relationship as a source of mutual value creation within the boundaries of the relational strategy	Leveraging the coopetitive relationship as a source of individual value creation within the boundaries of the firm-level strategy
Value-creation logic	Combining resources and capabilities of the coopetitive network to create common benefits for the whole network	Combining firm-specific resources and capabilities with those of the coopetitive network to create the potential for private benefits for the focal firm
Value-appropriation objectives	Maximizing the value-appropriation possibilities within the boundaries of the relational strategy	Maximizing individual, non-rival value appropriation (positive-sum perspective) Maximizing individual, rival value appropriation (zero-sum perspective)
Value-appropriation logic	Utilizing joint resources and capabilities to appropriate value aligned with the common benefits of the whole coopetitive network	Utilizing firm-specific resources and capabilities to capture private benefits from coopetition either through non-rival or differentiating logic (positive-sum) or confrontational logic (zero-sum)

Optimally, the framework should give a holistic picture of the strategic objectives inherent on the relational and the firm levels, as well as of the logic explaining why resources and capabilities are combined and utilized in the context of coopetition. These issues are worth analyzing because, in the end, they determine the dynamics of the coopetitive relationship/network, and affect the potential outcomes for each actor. The framework also incorporates the potential for a longitudinal perspective and the assessment of change in value-creation and -appropriation objectives over time.

The empirical study

Case-study research

In order to provide empirical insights into the value and potential of the proposed conceptual framework, we conducted an exploratory case study. The research design takes the form of a longitudinal case study involving a group of four Finnish manufacturing companies connected through a coopetitive network of relationships. The case constitutes the relationships and interactions between the four companies, and focuses on value-creation and appropriation elements of coopetition strategy on both firm and relational levels. All four companies operate within the steel industry, manufacturing different kinds of chassis for lorries and trailers. We

purposefully selected the case because of its uniqueness and because it offers insights that help illustrate the suggested conceptual framework of value creation and appropriation on both the firm and the relational levels.

According to Easton (1995), the majority of studies within the business-network approach are consciously or unconsciously case-based. Case studies could thus be considered appropriate in this context because they enable the researcher to capture the complex pattern of links between the different actors, and to trace the development of changes within the network over time (Halinen & Törnroos, 2005). Moreover, in-depth case studies are especially beneficial in enhancing understanding of duality-based relationships such as coopetition (Oliver, 2004). Case studies are usually based on multiple sources of empirical evidence, and in this study information has been gathered through multiple interviews with the same informants over a period of eight years. The empirical study was carried out between 2003 and 2011, during which time data was collected in various types of interviews. A total of 20 interviews were conducted with four managing directors (one from each company in the case). The informants were selected because they had the best knowledge of the coopetitive relationships of their companies. The average interview length was 50 minutes, and the authors transcribed all the interviews.

The interview techniques followed a step-wise pattern, given the need in the majority of qualitative studies for multiple interview sessions with informants in order to obtain trustworthy information (Glesne & Peshkin, 1992; Morse, 1994). Each of the four informants was therefore interviewed five times as follows: in an initial telephone call, in an initial meeting, in a meeting focusing on critical events, and in two follow-up sessions. The general idea was to start on a more abstract level, and later on to move to a more concrete level. This longitudinal research strategy provided insights into the development of the relationships in terms of both relational and firm-level value creation and appropriation. The initial meeting in 2003 covered aspects such as background information about the company (its history, products, markets, and overall strategy) and the development of cooperation with the other firms, specifically with regard to conflicts, strategies, and values. The informants also talked about the challenges and opportunities related to the inter-firm cooperation. These interviews followed an unstructured pattern, the focus being on each informant's story.

The second round of interviews, also carried out in 2003, focused on critical events in coopetition based on the Critical Incidents Technique (Flanagan, 1954). The informants were asked to describe in detail situations of conflict in the relationships with the other firms. Follow-up telephone interviews were held in 2004 to complement the descriptions. Finally, the personal follow-up interviews with each informant, conducted in 2011, traced the development of the relationships between the companies. The main focus in this round was on value creation and appropriation.

The data was subjected to two types of analysis. First, the Critical Incidents Technique (Flanagan, 1954) focused on critical events of value creation and appropriation from both a relational and a firm perspective. In order to be critical, an event had to be perceived as having a significant impact on the activities, goals, or strategies of the firm or the inter-firm relationship (e.g., a change in the value-appropriation objective of an individual actor from a positive-sum to a zero-sum approach). Second, qualitative content analysis (Miles & Huberman, 1994) was used to shed light on the broader patterns of firm and relational strategies in coopetition, and on value creation and appropriation in this context. The coding of the empirical material was based on the tentative theoretical reference framework (Table 1) in both

types of analysis. The first-order coding was more descriptive in nature, and codes that were more abstract were gradually generated from the material. Similar descriptive statements were combined into more abstract and refined codes. For example, the question "Why can't we manufacture what we have been manufacturing ourselves?" was first coded as resistance to giving up the production of certain products, as was the statement "[O]n the division of planning and marketing one questions why we should do this as we already have an existing product." The more abstract code of "resistance toward giving up the production of certain products" was later coded under zero-sum value-appropriation objectives.

In the following section the case will be described. The names of the companies have been changed in order to secure anonymity of the participants.

Case description

The case concerns four companies in the steel industry, all of which manufacture chassis and boxes for lorries and trailers. Steeltra is a Finnish family-owned organization with about 160 employees. It specializes in trailers and transport bodies that open out fully. More than 80 percent of its products are exported and its main export markets are Norway and Sweden, where it established sales networks in the 1980s. Steeltra took the initiative to cooperate with the other companies in the coopetition network under study.

In the 1960s Steeltra and Anisteel were competitors targeting the same customers with similar, diversified product portfolios. Anisteel is also Finnish and family-owned, with about 40 employees. It manufactures trailers and supplementary products, focusing on customer-specific products and manufacturing most of its production items in-house.

Steeltra and Anisteel both speak Swedish as their company language and are geographically situated close to each other. According to one of the informants, the short geographical distance facilitates cooperation. The two companies began to cooperate in the early 1990s, when Steeltra started buying certain production items from Anisteel. In 1998 Steeltra identified an opportunity to increase revenues and strengthen their mutual competitive advantage through focusing on different niches. Moreover, Steeltra's sales companies in Sweden and Norway needed a complementary product. Thus, Steeltra and Anisteel did not see themselves as direct competitors in that sense. Since then there have been fairly frequent exchanges between the companies, involving activities related to deliveries, production, and marketing. In 2010 they started cooperating on the purchasing of gloves and other similar items required in the assembly process. The initiative for this cooperation came from a third party that was selling the products.

In 2000 the Employment and Economic Development Centre hosted an internationalization project that initiated the cooperation between Steeltra and Anisteel, as well as between Santtolo and Trafin, which are subsidiaries of the same holding company. At that time Steeltra and Santtolo were competitors, as were Anisteel and Trafin. Santtolo has about 50 employees and focuses on trailers and swap bodies, whereas Trafin employs about 70 people and concentrates on manufacturing trailers for timber, woodchips and peat, platform- and tipper trailers, and different kinds of trailer chassis.

Cooperation between Steeltra and Santtolo started formally in 2001, when Santtolo was given access to Steeltra's sales network in Sweden and Norway. At the same time the companies started buying certain components from each other, and this interaction has been quite stable. Santtolo's sales in Norway increased considerably in 2006–2008, before declining in the face of the economic recession in 2009–2010 and then recovering in 2011. The relationship between

Steeltra and Santtolo is quite complicated and depends on the particular market. In the Norwegian market where they sell different products, it is purely cooperative, whereas in Sweden it is coopetitive because, to some extent, they market similar products. In the case of Finland the relationship is mostly competitive in that Steeltra sells its products directly to end customers and Santtolo sells to automotive retailers, which focus on the same set of customers.

Steeltra and Trafin were cooperating in the 1980s when Steeltra bought chassis from Trafin. Some time later Steeltra started using Trafin's drawings and learned to build its own chassis. Following a change in ownership at Trafin, Steeltra was prohibited from buying Trafin's chassis for a time, but a further ownership change reignited the possibility of cooperation. For several years Trafin supplied Steeltra with frames, until they became too costly and the cooperation stalled again. It was further reactivated in 2001 when Trafin started selling its products in Sweden and Norway through Steeltra's sales agencies. There has been no cooperation between Steeltra and Trafin in Sweden since 2007, when Trafin began to sell through its own sales channel. The companies do cooperate on the Russian market, where Trafin's salesperson is also Steeltra's representative.

Through specialization in different product segments, competition between Anisteel and Trafin eventually diminished. The companies occasionally buy components from each other, and these exchanges have remained more or less stable. Cooperation between Anisteel and Santtolo has been limited since 2001. Sometimes they buy components from each other, but this has also been somewhat difficult due to their different systems and processes.

The cooperation among all the companies rests to a large extent on information sharing, and on being a network united against other competitors. In 2001, when the cooperation started, all four firms met four to five times a year in order to talk about current trends on the market and opportunities for cooperation. At the start they employed a consultant to carry out an overall analysis of each of the four companies, which gave them not only the possibility to obtain information about their own company, but also the means to learn about and compare themselves with the other companies within the group. Moreover, the companies together ordered accounts data from the industry and shared it among themselves.

In 2011 the companies met only twice, and according to the representative of Steeltra the agenda was thin. One reason for this was that it had not been possible to achieve all the cooperation goals in the way that was intended. This and other key points of the coopetitive strategy are elaborated on in the following section, which presents the findings of the study from the perspectives of value creation and appropriation.

Results

Table 2 summarizes the findings of the empirical study, and shows the relational and individual firm-level strategies, as well as the corresponding period in time when they were relevant. It became apparent from the analysis of the interviews that the value creation and appropriation events could be identified and categorized in relation to four different time periods. The first of these extends from the initiation of the cooperation to the year 2003, the second from 2004 to 2007, and the third from 2008 to 2011. The last time period represents a current and forward-looking perspective on the relationships between the companies, starting from the year 2012.

The results are elaborated further in the following sections: Informant 1 represents Steeltra, Informant 2 is from Anisteel, Informant 3 represents Santtolo, and Informant 4 is from Trafin.

Table 2

Value creation and appropriation in coopetitive strategies on the relationship and firm levels

Time	1999–2003	2004–2007	2008–2011	2012–
Nature of coopetition:	High expectations of cooperation opportunities	Carefulness Opportunism	Individualism Decreased focus on cooperation	Potential for increased cooperation
Relational strategy				
Value-creation objectives	To find synergies between the companies, to analyze competitors and the market. To strengthen the position in the market through the focused product niches of individual firms and with the help of interaction between them	To be stronger on the market as a group in comparison with competitors	To preserve the market position of the group and of each individual company	Possible mergers between the companies
Value-appropriation objectives	To learn from each other (*positive -sum*) To utilize the resources and capabilities of each other. (*positive-sum*)	To utilize the interaction within activities that worked (*positive-sum*)	Every firm has its own strategy and way of working (*positive -sum*)	To utilize each other's competence and resources in order to grow. (*positive-sum)*

Steeltra: Firm-level strategy *Value-creation objectives* *Value-appropriation objectives*	*To influence the structure of the industry. To be able to offer customers a broader range of complementary products. A strategy to grow To focus on specialized products The establishment of a service and sales unit in southern Finland To be able to gain financially by offering the other companies access to its sales network (*positive-sum)*	To focus on issues that worked in the cooperation with the other companies. To focus on gaining from giving the other companies access to its Scandinavian sales network. (*zero-sum*)	To focus internally with a strategy of strengthening its own position. To focus on profitability *To increase ownership in the common sales organizations in Norway and Sweden (*both positive and zero-sum*) *To focus more on cooperation with a German competitor than with the companies within the group. (*zero-sum*)	To merge with one of the other companies *To demand more of the other companies as a consequence of Steeltra's increased ownership in the sales organizations in Norway and Sweden (zero-sum)
Anisteel: Firm-level strategy *Value-creation objectives* *Value-appropriation objectives*	 To share the costs of common activities To start cooperation within purchasing An initial resistance to giving up the production of certain products. (*zero-sum*) To focus on a certain level of production, leading to the unwillingness to grow along with the other participants (*zero-sum*)	 To preserve its position on the market. To receive information from the other companies (*positive-sum*)	 The company has invested in a welding robot in order to be able to grow and expand its business To receive information from the other companies (*positive-sum*)	 A strategy to grow by enlarging its production factory To utilize the cooperation with the other firms by increasing sales to them (*positive-sum*)

Santtolo: Firm-level strategy *Value-creation objectives* *Value-appropriation objective*	To receive synergy effects within the cooperation To deliver promptly to its customers *A resistance to giving up the production of certain products. (*zero-sum*)	To stick to its product strategy on the Finnish market. To utilize Steeltra's sales network in Norway *(positive-sum)*	To preserve its position on the Norwegian market *To stick to its current sales strategy on the Finnish market To utilize Steeltra's sales network in Norway (*positive-sum*)	To increase cooperation with Steeltra on the Finnish market. To utilize Steeltra's sales network in Norway *(positive-sum)*
Trafin: Firm-level strategy *Value-creation objectives* *Value-appropriation objectives*	To increase sales through increases in the other companies' sales. To establish a joint sales office in Russia To cooperate within purchasing An initial resistance to giving up the production of certain products. (*zero-sum*) To receive information from the other firms in order to strengthen its own position (*positive-sum*) To preserve its relative position in the Swedish sales channel (*zero-sum*)	To increase cooperation in terms of exports. To strengthen its position on the Swedish market *In 2007 Trafin took over Steeltra's sales representative in Sweden*(zero-sum)*	To take a passive approach (value creation and appropriation largely independent of the other companies)	Adopting a passive approach (value creation and appropriation largely independent of the other companies)

*Critical incidents/events regarding value creation and appropriation in the coopetitive network are marked with an asterisk.

Relational strategy

The main value-creation objective on the relational level in 2000 was to strengthen the group's position on the market through intense interaction and cooperation. According to Informant 1 (Managing Director of Steeltra), the group initially had high ambitions regarding cooperation in areas such as purchasing, marketing, and sales. Once Santtolo and Trafin had started using Steeltra's sales network in Sweden and Norway, each party knew, more or less, what they should focus on. The indirect, unwritten strategy was for each company to focus on a specific niche and to increase the interaction between them in order to provide the customer with a large range of products. The major goal was to be more competitive as a group than the other competitors in the field.

The idea was to give higher value and better service to the customer by offering highly customized products. Informant 1 expressed the vision of the cooperation as "hav[ing] a common attitude" towards the market. According to the informants from Steeltra and Santtolo, the cooperation between the companies was unique. It was also in line with future needs and trends in the business, implying tighter concentration with fewer companies offering specialized products. However, the informant from Anisteel put forward a critical perspective on the value-creation objectives on the relational level, advocating the need for concern about the market and the views of customers. The informant illustrated this with reference to the auto industry: "If you want to buy a special car from Ford and the Ford seller says that that particular Ford car is now a Honda, then you could as well go directly to Honda and buy the car." Informant 3 also recalled an occasion when the seller brought the customer to Santtolo in order to accept it as a supplier of a product that previously had been manufactured by Steeltra.

At first, the relational value-appropriation strategy focused on learning from each other and utilizing each other's resources and capabilities to facilitate the potential for eventual individual-level gains. Increased interdependency would also imply increased knowledge sharing and the adaptation of the activities of each firm. This represents a positive-sum strategy, according to which one company's benefit would not be a loss for any of the other companies. It is also related to differentiation in concentrating on a certain niche that best suites each company. After some time, however, it became apparent that this relational strategy of specialization would not work as well as initially intended. This was attributable, in part, to the individual companies' value-creation strategies, which were not always in line with the relational strategy. In practice it turned out that it was hard for some of the companies to focus on a certain product niche. For example, according to Informant 1, Santtolo did not understand the idea of specialization in the Finnish market, where Steeltra and Santtolo were still competing. During this time (2004–2007) the value-creation strategy of the group was still perceived as stronger as a whole in comparison with their competitors. According to Informant 1, the firms focused on the aspects of the cooperation that worked, thus the relational value appropriation objective was to utilize the interaction related to these aspects. In practice this meant focusing on the parts of the cooperation that worked to the satisfaction of all parties involved. This could be seen from a positive-sum perspective.

The economic recession in 2008 and 2009 decreased demand within the businesses of the case network firms. At this point, the relational strategy was to preserve the market position of the group and of each individual company. In 2011 the informants argued that their strategies were based on practice and on the evaluation of needs and opportunities as they occurred. From a value-appropriation perspective, the period from 2008 and 2011 was characterized by the securing of competitive advantage on an individual-company level instead of prioritizing the relational level. According to Informant 1, the focus was on profitability rather than growth.

According to several informants, a future value-creation opportunity would be for some of the companies to share stock or to merge. This was considered a natural path for growth and development. However, Informant 2 thought it might be more difficult for family companies to exchange shares. Informant 3 had a clear vision of the future, but it was dependent on the market and the economic situation, as well as on how customers perceived the cooperation. From a value-appropriation perspective the objective was to utilize the resources and competences of each other in order to grow, thus also reflecting a positive-sum perspective.

It is apparent from the interviews that the companies had different views about the relational strategy and how it had developed since the start of the cooperation. According to Anisteel's managing director, there had been no major changes and the objective was still for the group to be stronger as a whole. This conflicts with the view of Steeltra's managing director, who believed that the value-creating objectives were more ambitious at the beginning, but over time there was more focus on the individual firms. It is also apparent from the interviews that Steeltra was the most active, taking the initiative for the cooperation and offering the other companies access to its sales channels. According to Informant 2, Santtolo and Trafin were rather inactive and passive throughout, one reason for this being that they were not as dependent on the cooperation as Steeltra and Anisteel. The informant from Santtolo suggested that, although there was no common strategy from their perspective, it would be easy to formulate one if the companies were interested in doing so.

Firm-level strategies

Steeltra

Steeltra views value from the perspective of the *customer* and the brand it creates. This has been its view since the start of the cooperation, and may also influence both value creation and value appropriation.

During the initial phase of the cooperation (2000–2003), the company's *value-creation objective* was to increase competitive advantage through structuring the business. It had a strong perception of its own competitive advantage in the industry and in cooperation with its competitors. According to Informant 1, this cooperation still served the company's best interests, and was not initiated in order to help the other companies.

When the cooperation started, Steeltra already had an established sales network in Sweden and Norway. However, it realized that it needed a broader product range in order to satisfy its customers. It therefore contacted the other case companies and initiated the cooperation. Its strategy was to form a network of cooperating firms that would offer a broad range of complementary products. Moreover, it became apparent in the interviews that it wanted to focus on specialized products that could be complemented through cooperation with the other companies. Its strategy was also strongly related to growth.

Another issue related to value creation was Steeltra's strategy of establishing a joint service and sales unit in southern Finland. This would serve its aim to secure a stronger position there, where Santtolo and Trafin were already established through their own contacts. However, Santtolo and Trafin were not interested, and as a result Steeltra followed its strategy and established a sales unit of its own in southern Finland.

From the perspective of *value appropriation*, Steeltra's strategy was initially to open up its Scandinavian sales network to the other companies, with an expected return in the future. This could be viewed from a positive-sum perspective in that at that time it did not collide with the objectives of the other companies because it would increase the market for each of them.

It became apparent in the interview from 2004 that the growth and specialization strategy set up at the beginning was not working as Steeltra had expected. It turned out that it was hard for the other companies to focus on a certain product niche, and Anisteel did not match the production requirements of the group. As a result, Steeltra decreased its engagement in the cooperation and instead focused more on its internal strategy. The informant from Steeltra was of the opinion that if some things in a business relationship do not turn out as expected, one should concentrate on things that do work. From a value-creation perspective, the company's strategy was consequently to focus on the issues that worked in the relationships with the other firms. From a value-appropriation perspective, the company expected financial benefits from opening up its sales channels to the other companies. This could be seen from a zero-sum perspective in that it implies that the other companies would face increased costs by using Steeltra's sales network.

The *value-creation* objective for Steeltra during the economic recession in 2008–2010 was to secure its profitability and strengthen its position. From a *value-appropriation* perspective, this meant increasing its ownership of the joint sales organizations in Norway and Sweden. One reason for this was that Steeltra had not enjoyed the expected returns from opening up its sales channels to the other firms, and believed that increasing its shareholding would bring higher returns. Informant 1 said that the other firms could perceive this both positively and negatively: positively in that Steeltra might appear to be a more trustworthy owner than the foreign shareholders, and negatively because it could be increasing its influence for its own ends. Consequently, the value appropriation in this case appeared in both a positive and a negative light. Another issue related to value appropriation is Steeltra's cooperation with a German competitor. According to the informant, the company focused more on this relationship than on its cooperation with the other firms, which from a zero-sum perspective implies less focus on selling the other companies' products.

As far as the future is concerned, the value-creation strategy of Steeltra is to merge with one or several of the other companies. According to the informant this would be a natural form of growth and development. From a value-appropriation perspective the company's strategy is to demand more of the other companies as it increases its ownership in the Swedish and Norwegian sales organizations. This could be viewed from a zero-sum perspective in that Steeltra's requirements will not be totally in line with the strategies of the other firms.

Anisteel

Anisteel views value from a *monetary* perspective, and according to Informant 2 cooperation is good if it is more profitable than operating alone. From a *value-creation* perspective, one of its main initial objectives was to save money by sharing the costs of different activities among the group. Moreover, its preference was for cooperation within purchasing. According to Informant 2, joint purchasing would lead to decreased costs, which was one of the main objectives of the company as far as the cooperation was concerned. However, it became clear in the interviews that this would not be beneficial for Steeltra, which was larger and consequently had better deals with its suppliers. Joint purchasing would weaken its position in

terms of costs. Moreover, Informant 3 claimed that the importers were not interested in joint purchasing among their customers, and that it was easier to arrange when it concerned relatively low-value products.

As far as *value appropriation* is concerned, it is fair to say that it related to the initial phase of the cooperation involving only Steeltra and Anisteel, when it was difficult for Anisteel to stop manufacturing and give up products it had been manufacturing for several years. The company still occasionally manufactured and sold products in contravention of its new strategy. This represents a zero-sum perspective as it directly conflicted with the objectives of Steeltra.

Anisteel is small in size, and from a value-appropriation perspective it was not interested in growth at the start of the cooperative venture among all four firms. This also meant that it preferred to stick to its current ways of working, which were not completely in line with the systems of the other companies or the relational strategy of the whole group. According to Informant 3, it was difficult to appoint Anisteel as a supplier because the other companies had totally different production systems. The informant recalled a situation when Anisteel was not able to deliver on time, which forced Santtolo to buy the components from another European supplier. Moreover Anisteel was sometimes too costly, which forced Santtolo to appoint another supplier. Anisteel's strategy of maintaining its production system could also be viewed from a zero-sum perspective in that through the interaction within the group, it negatively affected the other companies' business.

Anisteel's turnover decreased significantly during the economic recession in 2008–2009. At that time its main value-creation objective was to preserve its position in the market. From a value-appropriation perspective, it needed to receive information from the other companies: according to the informant, the most important thing Anisteel received from Santtolo and Trafin was information. This strategy represents a positive-sum perspective. In 2010 Anisteel aspired to grow by expanding its factory. This growth strategy was one of its more recent *value-creation objectives*. However, at that time the situation on the market was still somewhat insecure so Anisteel decided to enlarge its factory only when demand was secure. In 2011 the company invested in a welding robot in order to be able to grow and expand its business by manufacturing more items for Steeltra, Santtolo, and Trafin. From the perspective of value appropriation, the information received from the other companies was still the most valuable resource gained from the cooperation.

As far as the future is concerned, from a value-creation perspective Anisteel has plans to enlarge its production factory, whereas in terms of value appropriation it aims at increasing sales to the other companies within the group. In practice this would mean utilizing the new welding robot to manufacture items for the other companies.

Santtolo

Like Anisteel, Santtolo views value solely from a *monetary* perspective. Moreover, Informant 3 insisted that monetary value should take into account all the companies within the group in addition to the foreign sales offices. This view has prevailed more or less consistently since the start of the cooperation.

In terms of *value creation*, Santtolo, like Steeltra, also viewed the firm-level strategy from a relational perspective from the beginning, the main objective being to create synergy effects. Another objective was to get something concrete out of the cooperation, so that it would

develop continuously. Santtolo also aimed at delivering promptly to customers through its cooperation within the group. It had developed its processes and utilized a production and manufacturing system that kept track of both quality and time. However, some companies within the group did not have such advanced systems, which caused delays in their deliveries to Santtolo. According to the informant from Santtolo, it would have been extremely important to agree on common terms of delivery on which one could count so that customers would not have to wait for the products to arrive.

From a *value-appropriation* perspective, there was initial resistance to giving up the manufacturing of products, which would have been beneficial to the company in cooperating with the other firms. According to Informant 3, this resistance came mainly from people on a lower hierarchical level in the organization. From a zero-sum perspective, this implies that the objectives of the firm collided with the objectives of the cooperation as a whole and of the other companies concerned.

During the time period 2004–2007, Santtolo increased its sales in Norway, where its relationship with Steeltra was purely cooperative due to the fact that the companies focused on different product segments. However, from a value-creation perspective Santtolo's strategy was to stick to its diversified product range in the Finnish market, which was not in line with the strategy of Steeltra. From a value-appropriation perspective, Santtolo aimed at utilizing Steeltra's sales network in Norway.

Santtolo stuck to its strategy of not manufacturing certain types of chassis during the economic recession of 2008–2010, although demand had increased before the demand for Santtolo's products increased in 2010. The reason for sticking to its product strategy was that, although it could have manufactured other products, it would not have been profitable. From a value-appropriation perspective, Santtolo's strategy was, again, to utilize Steeltra's sales network in Norway. This can be viewed from a positive-sum perspective, as it did not have a negative impact on the sales of the other firms.

In 2011 the main *value-creation objective* of Santtolo was to preserve its position in the Norwegian market, which it perceived as one of the greatest benefits of the cooperation. Moreover, it preferred to stick to its current sales strategy in Finland, which was to sell lorries and chassis though dealers. This was in contrast to the strategy of Steeltra, which preferred to sell directly to customers. In terms of value appropriation, Santtolo's strategy was to utilize the sales network that Steeltra had built in Norway, which also reflects a positive-sum perspective.

As far as the future is concerned, Santtolo is hoping for an increase in demand in the Finnish market so that Steeltra will need more capacity, and for that reason would intensify its cooperation with Santtolo. The informant from Santtolo acknowledges that the market in Finland is limited and that it is hard to increase market share, and envisages no radical changes concerning the cooperation between the companies in the Finnish market. As far as value appropriation is concerned, Santtolo's strategy will be to continue benefiting from Steeltra's sales organization in Norway.

Trafin

Trafin also views value in *monetary* terms. From a *value-creation* perspective its initial objective was to increase its sales through cooperation with the other companies. The logic was that this would come about through an increase in the sales of the other companies, which used

items manufactured by Trafin in their products. Another, perhaps more specific objective was to enter the Russian market together with the other companies, or more particularly to establish a joint marketing office in St. Petersburg.

From a *value-appropriation* perspective, some people in the planning and marketing departments initially wanted to continue manufacturing products that the firm had been making for several years, but was supposed to stop manufacturing as a consequence of its specialization strategy. This could be seen from a zero-sum perspective. Moreover, Trafin was initially interested in receiving information from the other companies concerning the prices of purchased items. According to the informant, the aim was to strengthen its position. From a value-appropriation perspective, this could be seen as positive-sum logic in that it did not prevent the other company from generating similar value. Another issue related to value appropriation was the objective of Trafin to preserve its position within the sales network in Sweden. It is apparent from the empirical study that some time after the company had gained access to the sales network of Steeltra, its sales increased quite remarkably. This implied, at the same time, that fewer resources were allocated to selling the other companies' products, for example. This could be viewed from a zero-sum perspective in that increased sales for one company automatically meant a loss in sales for the others.

Trafin's most recent *value-creation objective* was to increase exports to the Russian market, possibly in cooperation with the other firms. The company is already active in Russia and aims to strengthen its position there, which could be contrasted with its *value-appropriation objective* to strengthen its position in the Swedish market. This could be seen from a zero-sum perspective in that, for this purpose, in 2007 Trafin employed a distributor that previously sold products manufactured by the other case firms. According to Steeltra, Trafin "stole" the particular distributor and this had a negative impact on the relationship between the companies.

It is apparent from the interviews that the involvement of Trafin in the cooperation was rather passive from the start. The company initially stuck to its relational strategy in focusing on a certain niche. Since 2007 its role has been quite limited, and it is more a question of participating rather than contributing.

The fit and evolution of relational and firm-level strategies: the perspectives of value creation and value appropriation compared

Thus far we have discussed value creation and appropriation on the relational level of the coopetition strategy, as well as from the perspective of each firm in the coopetitive network. It is important to understand these issues, but it would also be beneficial to analyze the fit between the two levels. Common and private benefits do not always coincide in inter-firm relationships (Khanna et al., 1998), and this creates potential conflicts and management challenges in terms of coopetition (Tidström, 2009; Ritala & Hurmelinna-Laukkanen, 2009). Table 3 summarizes the results of the study so far, showing how the firms' objectives related to value creation and appropriation evolved over time in the coopetitive network, and also indicates the level of fit between relational and firm-level strategies in each firm. The following sections discuss these issues in detail.

Table 3

A summary of the value creation and appropriation objectives of the actors in the coopetitive network over time

	Steeltra	**Anisteel**	**Santtolo**	**Trafin**
Value-creation objectives	Collaborative approach (1999–2003) Collaborative/competitive approach (2004–)	Collaborative approach (1999–2003) Passive approach (2004–2007) Collaborative approach (2008–2011)	Collaborative/competitive approach (2000–)	Collaborative/competitive approach (2000–2007) Passive approach (2008–)
Value-appropriation objectives	Positive-sum (1999–2003) Zero-sum (2004–2007) Positive-/Zero-sum (2008–2011) Zero-sum (2012–)	Zero-Sum (1999–2003) Positive-Sum (2004–)	Zero-Sum (2000–2003) Positive-Sum (2004–)	Zero-/Positive-sum (2000–2003) Zero-Sum (2004–2007)
Fit between firm-level and relational coopetition strategy	*Good fit*: Steeltra is the hub firm in the coopetitive network and has created the vision for the value creation and appropriation objectives on the relational level	*Moderate fit*: Anisteel interacts with the other firms in line with the relational strategy, but its production system is not in line with what is required on the relational level.	*Moderate fit*: Santtolo's strategy is in line with the relational strategy in Norway, but not in Sweden and Finland.	*Good & bad fit:* Good fit at first when the company focused on a certain product niche. Bad fit when it started to act opportunistically/ passively from 2007 onwards.

As far as the relational value-creation strategy is concerned, certain patterns emerged from the start. A strategy of intense relational interaction characterizes the first years of collaboration. However, the following period from 2004 to 2007 reflected carefulness, and even individualism. This was further pronounced during the economic recession in 2008–2010. Interestingly, the future relational strategy again seems to be more oriented toward interaction and collaboration through potential mergers and/or acquisitions among the firms.

It is apparent from Table 3 that the value-creation strategies of the firms varied over time. Moreover, it is possible to identify both similarities and differences among them. As far as Steeltra is concerned, its strategy was collaborative from the start of the cooperation until the year 2004, when it became both collaborative and competitive. In a comparison of relational and firm-level value-creation strategies, one could say that there was a good fit between the two in Steeltra, which was the initiator of the cooperation among all the firms, and its vision and strategy influenced the relational strategy. Anisteel also took a collaborative approach from the start. Its strategy in 2004 could be characterized as passive, before again in 2008 it took a collaborative approach. In the case of Anisteel, there is a moderate fit between its relational and firm-level strategies. Although interacting with the other companies in accordance with a relational strategy, its production system is not in line with what is required on a relational level. The value-creation strategy of Santtolo was both collaborative and competitive from the start. There is also a moderate fit with the relational strategy as far as the Norwegian market is concerned, but this is not the case in Finland where the company has not focused on a certain product niche. A similar fit is identifiable in Trafin until the year 2008, when it took a passive turn.

In terms of the evolution of value-appropriation objectives, it could be said that Steeltra changed from a positive-sum at the beginning towards a more or less zero-sum approach in 2004. This is in contrast with Anisteel and Santtolo, which had zero-sum objectives at the start and positive-sum objectives from 2004. Trafin's value-appropriation objectives again resemble those of Steeltra more than those of Anisteel and Santtolo. Trafin applied both a zero- and a positive- sum approach from the start until 2003, when it became zero-sum oriented. From the fit perspective, positive-sum value-appropriation objectives used by all companies at some point are fully aligned with the relational strategy. On the other hand, zero-sum appropriation objectives may work against the initial relational strategy – although it should be noted that, as a fundamental part of the coopetitive logic of the whole network, the relational strategy also allows for a certain degree of zero-sum competition.

Overall, it seems that the fit between relational and firm-level strategies in value creation and appropriation varied among the actors in the coopetitive network. There are also two specific general observations to be made. First, the fit between strategies may change over time: for instance, the firm-level strategy of Trafin was initially partly aligned with the relational strategy, but then started deviating from it in both value creation (by becoming passive) and appropriation (by acting opportunistically). Second, the fit is also dependent on the market: for instance, Santtolo acted in line with the relational strategy in Norwegian markets, but not in Sweden or Finland.

Discussion and implications

This exploratory case study examines the elements of value creation and appropriation of a coopetition strategy. Overall, the findings are in line with our expectations that relational and firm-level strategies are notably different in terms of their value-creation and -appropriation objectives, and that there is observable heterogeneity in this regard among the firms involved. We also found that the strategies evolved over time, which affects the emphasis on the two types of objective in the different firms. In the following sections, we first discuss and review our findings in terms of refining the initial theoretical framework. The more generic discussion that follows covers the theoretical and practical implications of the study and its limitations, and gives suggestions for further research.

Value creation, appropriation and coopetition: a temporal dynamics perspective

We found evidence of heterogeneity and temporal dynamics in the coopetition strategies from the perspectives of both value creation and value appropriation. Table 4 summarizes the results against the initial theoretical framework (as summarized earlier in Table 1), and identifies several strategic patterns illustrated in the empirical study.

Table 4
*Relational and firm-level strategies in coopetitive networks – a summary of approaches and the temporal dynamics in the case study**

	Relational strategy	***Firm-level strategy***
Identified value - creation approaches	*Synergy seeking:* Joint aim to create value in the coopetitive network through combining the resources and capabilities of the actors, and increasing inter-firm learning and adaptation	*Collaborative:* Value creation through collaboration with other firms in the coopetitive network (Steeltra; Anisteel) *Competitive:* Value creation through individual objectives in the domain of the coopetitive network (Trafin) *Passive*: No active collaboration or competitive activities in relation to value creation in the coopetitive network (Anisteel; Trafin)
Dynamics	*Co-existence and the evolution of collaboration and competition:* Some aspects of the relational strategy remain unchanged throughout the coopetitive network (synergy seeking to increase potential advantages over other competitors), whereas others may change over time (the nature of the interaction between the companies)	*Coopetitive approach:* Co-existence of the collaborative and competitive perspectives to create value over time (Steeltra; Santtolo; Trafin) *Collaborative approach:* Viewing value creation from a collaborative perspective (Anisteel) *Fading interest:* Evolution towards passive participation (Trafin)
Identified value-appropriation approaches	*Market growth:* Joint aim for growth in market share and increased sales	*Positive-sum:* Aiming for firm-specific benefits by non-rival means (Steeltra; Anisteel; Santtolo; Trafin) *Zero-sum:* Aiming for firm-specific benefits by confrontational means (Steeltra; Anisteel; Santtolo; Trafin)
Dynamics	*The co-existence and evolution of collaboration and competition:* Relational strategy in value appropriation has been shifting from a joint market vision and mutual learning toward independent value appropriation after processes have been established	*Collaborate first to compete later:* Development from positive-sum toward zero-sum logic over time (Steeltra) *Collaboration intensification:* Development from zero-sum toward positive-sum logic over time (Anisteel; Santtolo) *Conflict-driven approach*: Opportunistic, mainly zero-sum logic (Trafin)

*Findings from the case study are marked with the corresponding names of each analyzed firm in parentheses.

With regard to the relational strategy, the value-creation objectives, which were consistent throughout the study period, could be described as synergy seeking (the firms in the coopetitive network generally aimed to utilize resources and capabilities to collaboratively create value and increase potential competitiveness against other competitors). This type of motive is in line

with findings from other studies of coopetitive networks (e.g., Ritala et al., 2009; Choi et al., 2010). On the other hand, the nature of the interaction between the companies changed over time: after the initial intensity, it became more stable and sometimes even passive. In terms of value appropriation, the focus of the relational strategy changed from joint learning and market growth towards more separated (yet simultaneous) profit taking.

In terms of firm-level coopetitive strategies, we found several patterns that are worth mentioning here. First, we identified three types of value-creation approaches: collaborative, competitive, and passive. In addition, the emphasis between these approaches shifted over time, producing three types of patterns: a consistent *coopetitive approach* was identified when both collaborative and competitive approaches to value creation were maintained (Steeltra, Santtolo, and Trafin); a purely *collaborative approach* was also recognized (Anisteel), as was *fading interest* in value creation within the coopetitive network (Trafin). Second, in terms of value appropriation, on the analytical level we distinguished between the positive-sum (aiming for firm-specific benefits by non-rival means) and zero-sum (aiming for firm-specific benefits by confrontational means) approaches. Both types of pattern were observed in all of the companies at different points in time during the period in question. Temporal dynamics were quite visible here in the following three types of approach we identified. *Collaborate first to compete later on* typified Steeltra (which, according to Brandenburger & Nalebuff, 1996, is the main underlying logic of coopetition); *collaboration intensification* was observed in two companies (Anisteel and Santtolo); and *a conflict-driven approach* was most evident in Trafin, which took an opportunistic, zero-sum stance with regard to value appropriation practically throughout the whole analyzed period.

Theoretical implications

The main theoretical contribution of this study lies in its combination of two different yet interconnected fields within the management literature: value creation and value appropriation. It is widely suggested that both approaches are important in examining inter-firm alliances and networks (Lavie, 2006, 2007; Adegbesan & Higgins, 2010; Capaldo & Petruzzelli, 2011), and especially in the case of coopetition (e.g., Gnyawali and Park, 2009; Ritala & Hurmelinna-Laukkanen, 2009). Our study contributes to these discussions in providing evidence of how value-creation and -appropriation objectives vary on two levels of analysis: the relational and the firm level. Thus far there have been no systematic studies on coopetition from this perspective. The main implication of our study is that firm-level coopetition strategies evolve and co-evolve over time, both in line with and against the relational strategy. Earlier studies on coopetitive networks present examples of very well-aligned relational and firm-level strategies (e.g., Choi et al., 2010; Peng et al., 2012), and of more unstructured, even conflict-driven approaches (e.g., Tidström, 2009). The results of our study enhance understanding of how a coopetition strategy forms in the interplay between the firm and the relationship level, attesting to the relevance of incorporating the network approach into the analysis of business strategies (e.g., Håkansson & Snehota, 1989; Dyer and Singh, 1998; Håkansson & Ford, 2002). The dynamics between the different objectives and strategy levels make the management of networks very challenging, as previously noted in the relevant literature (Khanna et al., 1998; Adner, 2006), and thus our results are in line with earlier research in this regard. In fact, the challenges related to the relational level of a coopetition strategy can also be found in the existing strategic and business network literature. There, the implications are that there is a need for the conscious management and coordination of networks, and that hub firms may be needed to carry out such a task (Möller et al., 2005; Dhanaraj & Parkhe, 2006; Ritala et al., 2012). Similar insights could be used to better manage coopetitive networks, while taking into account their specific features.

From a more fine-grained perspective, our study contributes to the existing literature on coopetition in several ways. In terms of value creation, the relational strategy seems to provide a broad framework within which the individual companies' value-creation objectives are more or less embedded. This is in line with suggestions that a common vision of how value is created is a focal starting point for coopetition (Brandenburger & Nalebuff, 1996; Choi et al., 2010). It is notable, however, that the case companies also had different perceptions of the value they were seeking to appropriate, which proved to be problematic in terms of creating a common vision of value appropriation over time. The differentiation among the firms' offerings helped to resolve some of the tensions, however. These findings support the view that value-appropriation objectives in coopetition tend to derive from firm-level needs brought about by competitive pressures, which may be eased through differentiation (Ritala & Hurmelinna-Laukkanen, 2009). This type of collaboration-and-differentiation approach to coopetition (in more or less intensive forms) has been observed in industries such as home electronics (e.g., Gnyawali & Park, 2011) and auto manufacturing (e.g., Gwynne, 2009).

With regard to value-appropriation objectives, the findings show that the firms in the coopetitive network had both positive-sum and negative-sum objectives, as suggested in the literature (Hamel, 1991; Ritala, 2009; Padula & Dagnino, 2007). An interesting result is that the orientation between zero-sum and positive-sum objectives changed over time, and there was evidence of change in both directions. In terms of movement from positive-sum to zero-sum logic (e.g., in the case of Steeltra), the coopetition progressed from "creating the pie" to "dividing the pie." This reflects the argument in Inkpen and Beamish (1997) that the balance of a relationship may change swiftly when one of the involved actors obtains sufficient knowledge and skills to be independent of the others. Moreover, as Khanna et al. (1998) state, competition may be influenced by the use of shared knowledge in order to obtain private gains.

Overall, on the basis of our findings we suggest that value-creation and value-appropriation objectives should be treated as dynamic phenomena that evolve over time during the course of the relationship and alongside the changes in the individual firms' strategies. Thus, we conclude that coopetition is rarely a stable relational state, and is more likely to be a constantly moving strategic mix of competition and collaboration between the actors involved (supporting the views put forward by Bengtsson et al., 2010; Roy & Yami, 2009). In analyzing these issues, we believe our study provides a contribution in the form of the conceptual framework and the identified strategic patterns, which can be used to pinpoint the different levels of a coopetition strategy and the value creation and appropriation objectives inherent in a coopetitive network and its actors. This could then be used as a platform for other theoretical and empirical studies aiming to find out more about how a coopetition strategy works in networks, and how it can be managed in attempts to create and appropriate value.

Practical implications

For practicing managers the results imply that extra effort should be invested in examining how individual firms' objectives with regard to value creation and appropriation differ in coopetition. Taking these differences into account is likely to enhance the management and success of coopetitive networks. In addition, it appears from the findings that coopetition initiatives may be highly related to the adaptation and refocusing of individual business concepts towards the customer. Coopetition, which typically relates to collaboration in upstream activities and competition in downstream activities near the customer (e.g., Bengtsson & Kock, 2000), is quite rarely studied from this perspective. The case study reported here featured collaboration both upstream (sharing costs in procurement) and downstream (the

sales network). Indeed, as we have shown, coopetition can help firms to concentrate on what they do best, while sharing the costs and risks, eventually leading to a situation in which the competitive positioning of each firm is strengthened against the rest of the industry's competitors. Anti-competitive legislation should naturally be taken into account in such initiatives if the practices are potentially too collusive from the perspective of the overall industry.

Limitations and further research

An obvious limitation of the study is that it was conducted in a specific industrial, cultural, and legislative context, and that it followed an exploratory research approach. This limits the generalizability of the findings. Another limitation is that the study only covers one type of coopetitive strategy, which is based largely on logistics and sales cooperation. Thus, the dynamics of value creation and appropriation could be different in coopetitive relationships involving other types of long-term competition and collaboration objectives (e.g., innovation or marketing).

In order to overcome these limitations, further research should utilize more in-depth methods (e.g., strategy discourse) as well as more generalizable methods (e.g., survey studies). In addition, future research could more thoroughly analyze and compare issues related to value creation and value appropriation among firms on different levels of analysis (firm, dyadic relationship between two partners, broader network of multiple partners, business ecosystem, etc.). In doing such analysis, it would be interesting to consider the wider context within which coopetition occurs, and to study influences related to value creation and appropriation in the focal business network with other types of actors such as customers and suppliers. Finally, studies focusing on different industries could reveal different objectives related to value creation and appropriation, and thus shed more light on the internal dynamics of coopetitive networks.

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