COOPETITION RELOADED: LOOKING BACK TO STRATEGIC MANAGEMENT RESEARCH FOR MOVING COOPETITION INQUIRY FORWARD

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ABSTRACT

In the last quarter of a century, coopetition has increasingly garnered the attention of management scholars. Notwithstanding, the extensive corpus of literature developed on coopetition has remained largely separate from mainstream strategic management research. This paper aims to review this “off-the-way” development of coopetition literature, and reconnect it to the realm of strategic management research. To establish a closer and more forward-looking links between coopetition and current strategic management research, first, we build a comprehensive map of the coopetition literature. Second, we retrace the key constructs in strategic management research that have informed the advancement of the coopetition stream, and reveal how they have been embodied in coopetition. Finally, we suggest a research platform for future investigation that promises to move coopetition body of inquiry forward.

INTRODUCTION

"*You can't connect the dots looking forward;*
you can only connect them looking backward"
(Steve Jobs, CEO of Apple Inc. and Pixar Animation Studios,
Commencement Address at Stanford University, June 12th 2005)

While competition and cooperation have progressively taken center stage in strategic management research, they have traditionally tended to be studied separately rather than jointly. On one hand, scholarly efforts have attempted to investigate how firms can achieve a *competitive advantage* (Barney, 1991; Porter, 1980). On the other hand, scholars have focused on the *cooperative advantage* of sharing costs or combining resources between firms (Das and Teng, 2000; Dyer and Singh, 1998). Thus, with a few exceptions (e.g., Cox, Mann and Samson, 1997; Hamel, Doz and Prahalad, 1989; Lado, Boyd and Hanlon, 1997; Parkhe, 1993), strategic management research has traditionally assumed that "like oil and water, competition and cooperation do not mix" (Gomes-Casseres, 1996, p. 70).

In the last two decades, an increasing number of scholars has suggested that firms often attempt to gain both competitive and cooperative advantages simultaneously, for which they adopt "a combination of [cooperation] and competition taking place in the context of a relationship" (Ritala, Kraus and Bouncken, 2016, p. 2). Extant literature has labeled such *coopetition* as a multifaceted relationship that includes both competitive and cooperative elements (Bengtsson and Kock, 2000; Brandenburger and Nalebuff, 1996; Dagnino, 2009; Dowling, Roering, Carlin and Wisnieski, 1996; Gnyawali and Charleton, 2018).

Over the past years, academic research on coopetition has intensified copiously, in quantity and quality, especially in the form of journal articles (Bouncken, Gast, Kraus and Bogers, 2015; Dorn, Schweiger and Albers, 2016), books and books chapters (Dagnino and Rocco, 2009; Fernandez, Chiambaretto, Le Roy and Czakon, 2018; Yami, Castaldo, Dagnino and Le Roy, 2010), using both qualitative and quantitative methods (Gnyawali and Song, 2016)[1].

While coopetition may arise at different levels of analysis (e.g., interpersonal, intra-firm, dyadic inter-firm relations, inter-organizational networks, and platforms), the bulk of coopetition studies focuses on dyadic inter-firm relations. In particular, within dyadic inter-firm relations, authors have investigated the reasons why rivals ally with each other (e.g., Kraus, Meier, Niemand, Bouncken and Ritala, 2018), the criteria for rival-partner selection (Bengtsson and Kock, 2000), and the management of tensions underlying coopetition and their implications (e.g., Bengtsson, Raza-Ullah and Vanyushyn; 2016; Fernandez, Le Roy and Gnyawali, 2014; Tidström, 2014). Some scholars have developed comprehensive literature reviews (Dagnino and Minà, 2018; Dorn et al., 2016; Bengtsson and Raza-Ullah, 2016; Rai, 2016) with the aim of framing the landscape of coopetition studies with a specific focus on dyadic inter-firm relations. While these studies partially overcome the fragmentation in coopetition inquiry[2] (Minà and Dagnino, 2016), they *cover only a part of the full picture*, thereby missing out on the opportunity to explicitly explore coopetition in the broader framework of strategic management research. Highlighting the fundamental links between coopetition and strategic management research and how they have contributed to develop

[1] For instance, scholars have investigated the rise of coopetition in various industries, such as the wine industry (Garcia, Bardhi and Friedrich, 2007), the pharmaceutical industry (Baglieri, Carfì and Dagnino, 2016; Lee, Fong, Barney and Hawk, 2019; Pitelis, Desyllas and Panagopoulos, 2018), ICT (Minà, Dagnino and Ben Letaifa, 2015; Ratzmann, Gudergan and Bouncken, 2016), the publishing industry (Lin and Zhang, 2005), the craft beer industry (Mathias, Huyghe, Frid and Galloway, 2018), the shipping industry (Nowińska, 2019), and the tourism industry (Chim-Miki and Batista-Canino, 2017). Additionally, the inquiry on coopetition has also expanded to global rivals (Luo, 2007a, 2007b; Luo, Shenkar and Gurnani, 2008) and small businesses enterprises (Lechner and Leyronas, 2009; Galloway, Kuhn, Collins-Williams, 2019).

[2] While they are synonyms, the terms "research" and "inquiry" have different nuances. From an etymological point of view, inquiry draws from old French *inquirĕre, quærĕre, quæsitum*, and from Latin *inquīrō* that means "to seek". Specifically, inquiry indicates the process through which it is possible to find out the cause of something or information about something (Oxford English Dictionary, 2022). The word "research" originates from the Middle French "*recherche*" that means "to go about seeking." Specifically, research indicates the careful study of a subject, with the aim of discovering new facts or information about it (Oxford English Dictionary), 2022. While different in etymological roots, both terms share the seeking to understand something in detail. To avoid terminological confusion, in this paper we consider the terms 'inquiry' and 'research' in an interchangeable fashion. Notwithstanding that, to warrant clarity and readability to the paper, we will preferably adopt, respectively, the periphrases "strategic management research" and "coopetition inquiry."

coopetition can, in fact, allow us to reconnect some of the dots in coopetition discourse by identifying strategic management constructs and adopting established explanations prevalent in the separate streams. We, therefore, see the opportunity to build a theoretically grounded contribution that can serve to integrate established constructs and theories into the dyadic inter-firm coopetition discourse.

This paper thus contributes to the existing literature in two ways. First, by critically reviewing extant studies, it builds a comprehensive map of the coopetition literature, clarifying the mechanisms that can reveal why, with whom, and when coopetition occurs, which logics of coopetition take place, how to deal with coopetition, and what are the performance effects of coopetition. Second, at a broader level, this paper contributes to the ongoing debate within strategic management research. Indeed, on the grounds of the comprehensive map of coopetition inquiry tackling the above-mentioned relevant questions, we *position* coopetition as an area of study within the strategic management field.

Lastly, concerning the managerial implications of this work, we advance that, while a coopetitive strategy might generate tensions between firms and inside the same firm, this is also a way of creating an endogenous pressure to innovate and boost market (and social) performance.

RESEARCH METHOD

To appreciate the closer and more forward-looking connections between coopetition studies and strategic management research, we have carried out three analytical phases: (a) reviewing coopetition inquiry; (b) mapping coopetition inquiry; and (c) linking coopetition literature with strategic management research.

Phase 1: Reviewing coopetition inquiry

We selected articles using the Scopus platform. The process was organized as follows. We started by retrieving all articles, for all the available years (1978 to October 2020), published in journals with titles, abstracts, or keywords containing 'coopetit*', OR 'co-opet*'. We limited our search by type of document to articles, reviews, and editorials. Then, we then restricted our analysis to the subject areas of business and economics, in journals edited in English. We thus found a total of 914 articles.

We further limited our sample by including only those journals ranked as 4*, 4, or 3 outlets in the following lists of the British Association of Business Schools 2018: (a) entrepreneurship and small business management; (b) ethics, CSR, management; (c) innovation; (d) international business; (e) organization; (f) strategy; and (g) marketing. The journal ranking system represents a global landmark for scholars in addressing to "the range and quality of journals in which business and management academics publish their research[3]" (Academic Journal Guide 2018). It takes into consideration journal metrics and summary information in a consultation process carried out by select subject experts. Compared to the Financial Times' journal list (FT50), the British Association of Business Schools' ranking appears more inclusive of emerging journals. Since coopetition inquiry is now in its younghood phase (Dagnino and Minà, 2018), we wanted to include the "highly regarded journals" that show elevated journal metrics, such as impact factor, relative to other journals in their field. The number of articles based on these keywords was thus reduced to 181.

In our initial screening of the 181 articles, we applied certain inclusion and exclusion criteria. We included only articles that explicitly contribute to the understanding of coopetition between two firms (i.e., dyadic), and analyze inter-organizational relations. We excluded articles on supply chain partners, and intra-firm coopetition or inter-organizational

[3] Specifically, according to the British Association Business School (ABS) list the journal ranking should encompass both the rigor of the review process, and the impact of the article in the field, the journals that are listed as 4* are considered as world-wide exemplars of excellence. Papers' selection and review process is highly rigorous and demanding. Therefore, the accepted papers are extremely fine-crafted and highly impactful in their field.
Journals listed as 4 are top journals in their field and, they have among the highest citation impact factors within their field. Papers in these journals go through a heavy review process that explains the high rate of submission, and the low rate of acceptance. Finally, journals listed as 3 encompass original and well executed research papers. Journal articles receive a significant number of articles but they are very selective in the kind of research papers they decide to publish. This explains the demanding review process.

coopetition among more than two firms[4]. Then, we reviewed the studies of inter-firm relations that have been extensively explored (Dagnino and Minà, 2018; Dorn et al., 2016; Bengtsson and Raza-Ullah, 2016; Rai, 2016). In doing so, we were able to consider a manageable number of papers and summarize insights on the formation, governance, and evolution of single alliances with rivals, as well as their implications. Our analysis may also serve as groundwork for studies of inter-firm relations involving more than two firms, as well as network and supply chain relationships where additional variables may come into play. We, additionally, excluded articles that, while referring in some way to coopetition, were not really centered on the key issue in question. Each author of this paper separately analyzed the abstracts of the articles in the original database, so as to avoid cross-sectional bias in approaching the research articles.

Finally, we included a few additional pieces (articles and book chapters) that, while they are widely acknowledged as seminal pieces in coopetition inquiry (e.g., Padula and Dagnino, 2007), were not included in the preliminary database, since they fell short of satisfying the aforementioned article selection criteria. These are pieces that have been extremely impactful in the coopetition domain, demonstrated in terms of citation numbers. Accordingly, we included 12 book chapters focused on coopetition.

Table 1 shows a synopsis comparing the methodological choices we made with the article selection procedures adopted in other recent coopetition reviews.

Insert Table 1 here

Phase 2: Mapping coopetition inquiry

As Figure 1 shows, we organized our coopetition inquiry to address six relevant issues

[4] Specifically, we do not consider articles focusing on networks, ecosystems, regional clusters, and crowdfunding and technological platforms.

considered key questions for identifying the main features underlying coopetition studies: (1) "Why" coopetition occurs; (2) "With whom" coopetition occurs; (3) "When" coopetition occurs; (4) "Which" logic underlying coopetition occurs; (5) "How" coopetition strategy is dealt with; and (6) "What" are the performance effects of coopetition. These questions resonate with classical questions in strategic management (Rumelt, Schendel and Teece, 1994). Accordingly, they allow us to identify "what variables are important and for what reasons, [identifying] how they are interrelated and why, and (..) the conditions under which they should be related or not" (Campbell, 1990, p. 65). Additionally, according to Sutton and Staw (1995), these fundamental questions support theoretical development, since they sanction the creation of connections among phenomena, and explore why acts, events, structures and thoughts emerge and are interrelated, as well as the timing of events.

Once again separately, each author of this paper analyzed the articles in order to identify, for any of the aforementioned questions, the constructs addressed in each coopetition-related contribution included in our database. We then discussed each of the constructs in order to classify them in the boxes that compose the comprehensive map of coopetition inquiry reported in Figure 1. When we had any disagreement in positioning a construct in the boxes in Figure 1, we asked a third expert coopetition scholar for an opinion. In the majority of cases, such third-party opinions were taken as critical to making the final decision.

Insert Figure 1 here

Arguably, our coopetition map (Figure 1) is largely consistent with two recent reviews on coopetition; i.e., Dorn et al. (2016) and Bengtsson and Raza-Ullah (2016). However, differently from Dorn et al. (2016), we dig much deeper into the literature by explicitly focusing on dyadic interactions among rival firms, as well as by providing a temporal context for coopetition (i.e., we consider “When” coopetition occurs). Differently from Bengtsson and Raza-Ullah (2016), we disentangle the factors underlying the coopetition process, considering “Which” logic underlying the coopetition occurs, and “How” coopetition is dealt with. Furthermore, we take into consideration certain fundamental issues that have recently emerged in coopetition studies (e.g., paradox management) that are covered neither in Dorn et al. (2016), nor in Bengtsson and Raza-Ullah (2016). In addition, we label the basic issues in the coopetition map after the six ‘key questions’ for identifying links between coopetition studies and fundamental questions in strategic management research. It is worth noting that, while this coopetition map comes to light from the analysis of all the articles in our database, for the sake of parsimony and for space constraints, here we dig deeper into the constructs that are more directly valuable in enhancing our understanding of coopetition studies, and look more closely at the aspects of these constructs in need of additional investigation.

Phase 3: Linking coopetition studies with strategic management research

In order to identify links between coopetition literature and strategic management research, we draw on selected highly influential, pro-tempore dominating, or domain-shaping theories of strategic management to explain selected aspects of coopetition, and to use their explanatory mechanisms to reveal links that coopetition literature has still to pick up on. Specifically, we disentangle *emerging links*, that is, constructs that are (explicitly or implicitly) traceable in coopetition studies. Successively, we discover *research opportunity links* by considering the constructs that, though foundational for strategic management research, have not yet informed coopetition literature, and, thus, may inform future inquiry.

Insert Figure 2 here

"WHY" COOPETITION OCCURS

"Why" is a basic question on the cause or reason for which something happens. Traditionally, firms show conflicting interests that "drive [them] to win, or defeat one's opponents" (Kilduff, Elfenbein and Staw, 2010, p. 943). Therefore, since the very beginning, the "Why" question has been foundational for coopetition studies investigating firms competing and cooperating with each other and the forces, for example, institutional and industry characteristics, that trigger cooperation with rivals (Bengtsson and Kock, 2000; Gnyawali, He and Madhavan, 2008).

First, it appears that coopetition occurs to exploit *market power or efficiency* (Luo, 2007b; Bengtsson et al., 2020). For instance, firms may cooperate "to create a pie and then compete when it comes to dividing it up" (Brandenburger and Nalebuff, 1996, p. 5). The symbolism of the pie highlights the creation of a market through joint competition and cooperation of firms (Bouncken et al., 2015, 2020).

Second, *institutional settings* and sources of power, such as governments and legal policies, may create incentives or coerce firms to align with policies imposed on them. Thus, rivals may, for example, find themselves cooperating and sharing resources with each other with the aim of cutting increased costs as a consequence of a curtail in government funding (Mariani, 2007).

Third, *technological discontinuities* stimulate firms to create relationships, allowing them faster access to new capabilities, as well as the exploitation of existing resources within their joint range (Bouncken and Kraus, 2013; Ritala and Hurmelinna-Laukkanen, 2013), to create and share new knowledge (Katila, Rosenberg and Eisenhardt, 2008; Kang and Afuah, 2010; Wang, Dolfsma and Bij, 2019), and to co-develop products, technologies, and services (Ang, 2008; Cozzolino and Rothaermel, 2018; Teece, 1992). Technological change and the development of relationships with coopetitors can thus affect a firm's technology entry timing, thereby reducing time to market (Afuah 2004; Chiambaretto, Bengtsson, Fernandez and Nasholm, 2020; Teece, 1992).

Fourth, technological discontinuities may lead to *inter-industry convergence*, driving firms to cooperate and compete in overcoming industry standards (Garud, 1994; Ritala, 2012) or to enlarge existing competitive grounds (Carayannis and Alexander, 2001). Indeed, technological discontinuities and the definition of dominant designs deeply impact "strategic decisions made by organizations interacting with each other" (McGrath, MacMillan and Tushman, 1992, p. 140), since they may substitute or even displace existing technology (Tushman and Anderson, 1986).

Finally, *environmental uncertainty* may stimulate firms to consider cooperation with rivals in order to face technological and market uncertainties (Chai, Li, Clauß, and Tangpong, 2019; Ritala, 2012; Bouncken and Kraus, 2013). This condition can be especially true for small firms that are more likely to form ties with large firms (Zhu and Liu, 2018). Interestingly, "the same structural conditions that seed competition also present opportunities for cooperation" (Ingram and Yue, 2008, p. 276). Thus, while originating from dissimilar starting points (i.e., competition or cooperation between two firms), "collaboration and competition can go hand-in-hand" (Clarke-Hill, Li and Davies, 2003, p. 2).

Linking "Why" coopetition occurs with contingency theory and resource dependence theory

To link "Why" coopetition occurs with strategic management research, we considered, in particular, studies investigating the origin of strategies by calling attention to environmental conditions. The need to make a link between the environment, the firm level and technological change has represented a *leit motiv* for several scholars, who, drawing on various theoretical lenses, have attempted to explain the drivers of cooperation between one firm and another. Contingency theorists, on one hand, have highlighted that firm success depends on the "fit between organization structure and some contingency factor such as technology, situational favorability, and environmental uncertainty" (Tosi, Aldag and Storey, 1973, p. 27). Resource dependence theorists, on the other hand, have underlined how firms have sought ways to reduce or overcome environmental uncertainty (Dess and Beard, 1984; Pfeffer and Salancik, 1978). Consistent with resource dependence theory, interdependence has also been shown to represent a key driver for the formation of ties between rivals (Provan, Buyer and Kruytbosch, 1980; Zhu and Liu, 2018).

There are, in fact, *emerging* links between coopetition and the abovementioned theories, since they provide explanations for why firms cooperate. However, coopetition scholars criticize that both theories fundamentally acknowledge only positive inter-firm interdependences for cooperation. Conversely, Dagnino and Padula (2002) maintain that cooperation has both positive and negative interdependences between partners. More recently, also the "dear enemy effect," which was originally elaborated in evolutionary biology, has been used to explain why cooperation occurs among rivals in an open innovation system (Lee, Fong, Barney, Hawk, 2019). This argument recalls that "evolutionary biology provides a contrasting perspective: despite conflict, cooperative outcomes can emerge in repeated interactions between proximate territory holders based on the *principle of mutual gains*" (Vasudeva, Leiponen and Jones, 2020, p. 3; our italics).

"WITH WHOM" COOPETITION OCCURS

The selection of firms "With whom" to develop inter-firm relationships is one of the most influential factors that has an impact on a central firm's effectiveness (Shah and Swaminathan, 2008). This aspect is even more crucial in coopetition literature. Accordingly, recent studies have explored partner selection criteria by focusing on market overlaps (Bouncken et al., 2020), resource similarity (Kraus, Meier, Niemand, Bouncken and Ritala, 2018), and their interplay (Minà, Dagnino and Vagnani, 2020).

Four aspects, in particular, are viewed as critical in selecting partners: relational openness; mutual dependence; prior exchange history; and expectations of continuity in the inter-firm relationship (Lascaux, 2019, p. 3). “Firms lacking coopetition experience find it difficult to understand the nature of coopetition and manage paradoxical issues” (Park, Srivastava and Gnyawali, 2014, p. 2), and may fail to learn from coopetition experiences in an effective way (Estrada and Qi Dong, 2019). In addition, trust is a relevant notion that affects partners’ capability to develop a specific project together and their intentions in doing so (Nooteboom, 1996). Thus, high levels of mutual trust, based on prior experience, can positively impact the effectiveness of R&D projects (Bengtsson and Kock, 2000; Chai, Li, Tangpong and Clauß, 2019), while the lack of trust in a partner discourages managers from engaging in coopetition strategies (Bengtsson, Raza-Ullah and Srivastava, 2020; Estrada and Dong, 2020; Hoffmann, Lavie, Reuer and Shipilov, 2018).

Interestingly, “small firms are less reluctant to coopete than large firms” (Chiambaretto, Bengtsson, Fernandez and Näsholm, 2020, p. 1). Though, in any case, coopetition partners need to develop *analytical* and *emotional* capabilities to manage the paradoxical relation, and accept the ambivalence of emotions underlying coopetition (Raza-Ullah, Bengtsson and Vanyushyn, 2018; Raza-Ullah, 2020).

The selection of firms “With whom” to develop inter-firm relationships is, thus, one of the most influential factors having an impact on coopetition effectiveness (Shah and Swaminathan, 2008). In exploring the question of “With whom” firms coopete, it is, therefore, also important to consider the action-response that the rival partner may exert, and the relational aspects that may emerge during the coopetitive interaction. For this reason, we discuss here the following two theoretical approaches: (a) competitive dynamics; and (b) the relational view of cooperative advantage. We select two such emerging links since, from a complementary viewpoint, they consider both the firms’ actions and responses in order to achieve competitive advantage and improve industry positioning (Smith, Ferrier, and Ndofor, 2001), and the benefits relating to cooperation. In the following section, we shall first consider "With whom" coopetition occurs in light of the theory of competitive dynamics.

Linking "With whom" coopetition occurs with competitive dynamics theory

Competitive dynamics research focuses on inter-firm rivalry (MacMillan et al., 1985), where the essence of rivalry is "a striving by firms for potentially incompatible positions" (Baum and Korn, 1996, p. 255). Thus, competitive dynamics theory investigates "competitive actions and reactions, their strategic and organizational contexts, and their drivers and consequences" (Chen and Miller, 2012, p. 3). Since "paradoxically, close competitors are not the most intense rivals" (Baum and Korn, 1996, p. 255), the emphasis here is on the so-called *action/response dyad* (Chen, 1996; Chen et al., 2007; Grimm, Lee, and Smith, 2006; Smith, Ferrier, and Ndofor, 2001). In fact, according to the awareness-motivation-capability framework (Chen et al., 2007, Chen and Miller, 2012), a competitor responds if "it is *aware* of the actions, *motivated* to react, and *capable* of responding" (Chen and Miller, 2012, p. 7). Rivals' responses depend essentially on five features: the attributes of the attack (i.e., the efforts and time required and the irreversibility of the attack, Chen and MacMillan, 1992), the characteristics of the attacker and those of the defender (Chen, Smith, and Grimm, 1992), the comparative resource endowments, and the market features (Ferrier, Smith, and Grimm, 1999; Ferrier, 2001).

Additionally, since "competitor and collaborator may be regarded as different forms of 'the other'" (Chen and Miller, 2012, p. 50), coopetition studies have *implicitly* drawn on competitive dynamics to bring in competitive attributes helpful for predicting the emergence of cooperative agreements and alliances (Harrigan, 1988) with competitors (Gimeno and Woo, 1996a; Gimeno and Jeong, 2001; Gimeno, 2004). Nonetheless, while competitive dynamics theory has been implicitly adopted in coopetition studies, the core constructs underlying competitive dynamics and the development of that conceptual approach are, instead, based on the analysis of observable actions and reactions (i.e., moves and countermoves) that rivals carry out (Chen et al., 2007; Chen and Miller, 2011, 2012). However, since interaction mechanisms and competitive vitality lie at the very heart of competitive dynamics (Chen and Miller, 2011, 2012, 2015), it is often difficult to distinguish between actions and responses in the sequence of firms' competitive dynamics.

Arguably, competitive dynamics is mainly concerned with the specific strategy of the firm and "the context vis-à-vis its competitors' strategies and positions" (Chen and Miller, 2012, p. 6). Therefore, in such cases, *competitive asymmetry* usually exists between the two firms, as they do not have the same perception about their relationship or interaction in the competitive arena (Chen et al., 2007). For this reason, we see that coopetition inquiry is firmly anchored in the *relational nature of competition*, according to which, in a given specific competitive environment, "actors will reliably identify certain opponents as rivals because of the relationships they have with these opponents" (Kildfull, Elfenbein and Staw, 2010: 946).

Furthermore, firms' strategic interactions may depend on firm-specific or idiosyncratic conditions (Chen, 1996; Baum and Korn, 1996). For instance, *market overlap* and *resource similarity* can predict the actor with whom a firm will interact, no matter whether or not that actor becomes a rival partner (Chen and Miller, 2015). Similarly, studies on multimarket competition (Baum and Korn, 1996; Gimeno and Woo, 1996, 1999; Klein et al., 2020) are open to considering cooperative and competitive interactions among rivals (Klein et al., 2020; Ryu, Reuer and Brush, 2020). Overall, the relational view of competition makes a firm "walk in the shoes of its rivals or partners" (Chen and Miller, 2011, p. 12) and "see through the eyes" of its rivals (Tsai, Su, and Chen, 2011, p. 761). Nonetheless, we recognize that a clearer definition of the actions (action types or actions and counteractions) that ideally define a coopetitive interaction would significantly enhance the added value of coopetition inquiry, and, more broadly, enlighten the *critical junction* between the body of competitive dynamics research and coopetition studies. Unfortunately, while coopetition literature has investigated certain kinds of interactional contexts (Gnyawali & Madhavan, 2001), it has hitherto fallen short of digging deeper into the coopetition action-response sequence.

Linking "With whom" coopetition occurs with the relational view of cooperative advantage

In parallel with competitive dynamics literature, coopetition inquiry has benefited from taking a relational view of cooperative advantage (Contractor and Lorange, 1988; Lado, Boyd and Hanlon, 1997; Dyer and Singh, 1998). Indeed, cooperation allows firms to obtain relational rents if they "combine, exchange, or invest in idiosyncratic assets, knowledge, and resources/capabilities, and/or they employ effective governance mechanisms that lower transaction costs" (Dyer and Singh, 1998, p. 662). The existence of complementary resources and the development of related advantages in terms of "relational capabilities" (Chung, Singh and Lee, 2000; Dyer and Singh, 1998; Shah and Swaminathan, 2008; Srivastava and Gnyawali, 2011) can motivate firms to cooperate (Dyer and Singh, 1998). Also the co-location of partners has an impact on the effectiveness of the relations (Ryu et al., 2018). However, such complementarity is assessed a priori. Therefore, it is quite difficult to know whether firms' resource complementarity may actually turn into a concrete manifestation, and how this complementarity is going to evolve. In their revised relational-dynamic perspective, Dyer, Singh and Hesterly (2018) suggest that the features of complementary resources (i.e., tangible oriented resources or intangible oriented resources, such as knowledge) have an impact on the features of the investments (relation-specific assets or knowledge sharing routines) that firms need to develop in order to benefit from their mutual cooperation (Dyer, Singh and Hesterly, 2018). This condition will, in turn, affect the firms' interdependence and the evolution of their relationship over time.

In such vein, coopetition studies acknowledge “the risks of knowledge misappropriation emanating from partner competition” (Ryu, McCann and Reuer, 2018, p. 945). Accordingly, they draw implicitly on the fact that several relational aspects impinge on firms’ ability to achieve relational rents, such as absorptive capacity issues (Cohen and Levinthal, 1990), contractual engagements, opportunistic behaviors (Khanna et al., 1998; Parkhe, 1993), and, more generally, “threats presented by partners’ abilities and incentives to appropriate knowledge” (Devarakonda and Reuer, 2018, p. 1914). Through inter-firm relationships, firms can, indeed, outcompete their rivals on resources and knowledge (Baum and Silverman, 2002; Devarakonda and Reuer, 2018; Diestre and Rajagopalan, 2014; Katila, Rosenberger, and Eisenhardt, 2008). Therefore, “a firm’s alliances not only enable it to withstand competition, but also to impose stronger competition on others” (Silverman and Baum, 2002, p. 792). Firms are, thus, in a continuous race, a ‘learning race’ (Hamel, 1991) and an ‘alliance race’ that “increase(s) a firm’s chance to win subsequent races for partners” (Silverman and Baum, 2002, p. 792).

“WHEN” COOPETITION OCCURS

“When” represents the temporal context in which managers develop their firms’ strategic decisions. Parallel to the initial conceptualization of coopetition as a rational strategy (Brandenburger and Nalebuff 1996; Dagnino, 2009), coopetition literature has managed to capture how emergent and spontaneous aspects regarding partners in a cooperative agreement may allow them to compete while simultaneously cooperating. In addition, in the early days of coopetition discourse, the emergent aspect was considered as a benchmark for looking at coopetition as a ‘*deliberate’* strategy (Mariani, 2007, 2009). Consequently, the initial interpretation of “When” coopetition occurs in strategic management finds it roots in Mintzberg and Waters (1985), according to whom “comparing intended strategy with realized strategy [allows] us to distinguish deliberate strategies - realized as intended - from *emergent* strategies - patterns or consistencies realized despite, or in the absence of, intentions." (p. 257). Nonetheless, the dichotomy between deliberate and emergent strategies seems to support no more than a merely descriptive approach. Therefore, to link research on "When" coopetition occurs in strategic management research, we ought to consider a shift from a static to a more dynamic view of coopetition, and to offer an inspection of the strategy process, namely "the mechanisms by which organizations formulate and implement strategy" (Bromiley and Rau, 2016, p. 174). As a consequence, our effort points in the direction of linking coopetition with strategic management research in relation to the key conventional parts of the strategy process: (a) strategy formulation; and (b) strategy implementation. In the next sub-section, we shall link coopetition inquiry with strategy formulation process studies.

Linking "When" coopetition occurs with the strategy formulation process

Hutzschenreuter and Kleindienst (2006) have argued that rationality and comprehensiveness represent the two key features associated with strategy formulation success. This stance appears to be dominant in coopetition studies. For instance, Quintana-García and Benavides-Velasco (2004) build on transaction-cost economics, game theory, and the resource-based view of firms to identify four alternative behaviors: unilateral cooperation, mutual cooperation, unilateral defection, and mutual defection. Additionally, studies on coopetition intended as an emergent strategy depict coopetition as a mix of intentional and emergent strategies, where emergent cooperation in a competitive setting is imposed by external forces (Mariani, 2007, 2009; Czakon, Klimas and Mariani, 2020). The underlying assumption is that "the decision object is already specified; i.e., how to find the best solution for a given issue has been explored" (Hutzschenreuter and Kleindienst, 2006, p. 708). Thus, while coopetition inquiry focuses on understanding the phenomenon as a deliberate versus emergent strategy, coopetition is given to mean an "intentional strategy driven by a strategic rationale" (Czakon at al., 2020, p. 1).

Linking "When" coopetition occurs with the strategy implementation process

Shifting our attention to linking research on "When" coopetition occurs with strategy implementation, we, first of all, noticed that a small cluster of studies points to a disequilibrium in strategy process research (Hutzschenreuter and Kleindienst, 2006). In this regard, a key emerging construct is *equifinality*, which refers to the condition of achieving a specific outcome through various types of organizational configurations (Gresov and Drazin, 1997). As Gresov and Drazin (1997) have argued, equifinality crosses the strategic management domain horizontally, since firms may implement different strategies or employ different organizational structures, or may do both, to achieve good performance in an equal manner. Since a particular organizational structure may have several functions that are deemed as alternatives, in strategic management research, we see three types of equifinality: suboptimal equifinality, trade-off equifinality, and configuration equifinality (Gresov and Drazin, 1997). On the contrary, coopetition studies pay no attention to the fact that "implementing strategy means managing change" (Hutzschenreuter and Kleindienst, 2006). As a notable exception, Pattinson, Nicholson and Lindgreen (2018) have recently argued that the coopetition literature assumes a kind of "*linear flow*" from emergent coopetition to deliberate coopetition. Interestingly, Tidström and Rajala (2016) have identified a sequence of coopetition stages, namely: (1) pre-coopetition; (2) silent coopetition; (3) active coopetition; and (4) forced coopetition. In such an understanding, the pre-coopetition phase is represented by the *unintentional* condition in which firms find themselves competing and cooperating at the same time, that is, "unintentionally coopeting". In addition, recent coopetition studies corroborate the existence of a "lifecycle of coopetition", or, rather, a sequence of phases in which a shift back and forth from coopetition to pure forms of cooperation or competition is observable (Park, Srivastava and Gnyawali, 2014; Zerbini and Castaldo, 2007).

"WHICH" LOGIC OF COOPETITION OCCURS

"Which" represents the rationale that managers need to consider in taking strategic decisions. In making such decisions, managers adopt a logic that "makes sense of what we see" (Webb and Weick, 1979). Logic represents the approach and the underlying lens that top managers adopt to tackle managerial actions. Since its beginnings, coopetition inquiry has implicitly followed the *from/to logic*, by which competition and cooperation are opposites located along a continuum (Bengtsson and Kock, 2000; Minà et al., 2020). More recently, coopetition inquiry has clarified that cooperation and competition act according to the *both/and logic*, for which competition and cooperation can be opposites and simultaneous (Chen, 2002, Fang, 2012; Bengtsson and Kock, 2014). In discussing the key strategic management questions relating to the "Which" logic, we have focused our attention to three streams of research in particular: (a) dominant logic; (b) paradoxical frames; and (c) dynamic managerial capabilities. Given that a firm's strategy mirrors management beliefs, and how managers deal with paradoxes depending on how they interpret opposites and the capabilities they may develop, we argue that these aspects may inform coopetition studies. Indeed, linking coopetition with the abovementioned streams of investigation allows us to clarify when coopetition is considered an "additional" strategy vis-à-vis competition and cooperation, as well as the role of managers in addressing a shift from competition or cooperation to coopetition, or vice versa.

Linking "Which" logic of coopetition occurs with dominant logic

Prahalad and Bettis (1986) defined dominant logic as "the mental maps, beliefs, theories and propositions that have developed over time" (p. 489). Initially, such "dominant logic is very much a reflection of managerial dominant logic" (Kor and Mesko, 2013, p. 235).

Over time, as managers implement and make decisions, the "dominant logic extends beyond the managerial level" (Kor and Mesko, 2013, p. 236), so as to affirm itself as an organizational-level phenomenon, including firm routines and capabilities. Prahalad and Bettis (1986) recognize that any reinforcement of positive outcomes may freeze a mindset and preferred processes, which, in the long run, may become paradigmatic until a significant shift occurs in the way the world appears and acts (Kuhn, 1970). Overall, the dominant logic supports a firm resource and capabilities configuration and orchestration, allowing it to adapt, simplify concepts, and speed-up decision-making processes (Bettis and Prahalad, 1995).

As discussed earlier, the concept of logic allows scholars to describe coopetition strategy, simplify concepts, and conceptualize factors that cause managerial capabilities to think in a paradoxical fashion (e.g., managerial cognitions among them). Top managers may progressively acknowledge that, over time, "the old logic must in a sense be unlearned by the organization" (Bettis and Prahalad, 1995, p. 10), for the firm to see the relevance of novelty and start to learn once more how to deal with complexity (Tripsas and Gavetti 2000). While the firm's logic condenses "underlying assumptions, deeply held, often unexamined, which form a framework within which reasoning takes place" (Horn, 1983: 1), coopetition literature falls short in shedding light on the mechanisms that identify what is to be "unlearned by the organization", in order to move away from sheer cooperation or competition towards coopetition.

Linking "Which" logic of coopetition occurs with paradoxical frames

Studies concerning the concept of paradox have quite a long tradition in strategic management (Dagnino and Minà, 2021; Minà and Dagnino, 2022). In fact, various paradoxes lie at the heart of strategic management research (Keller and Sadler-Smith, 2019; Ford and Ford, 1994; Van de Ven and Poole, 1995; Das and Teng, 2000), such as: differentiation vs. integration (Smith and Tushman, 2005); stability vs. change (Farjoun, 2010); exploration vs.

exploitation (March, 1991; Gupta et al, 2006); global vs. local (Marquis and Battilana, 2009); static vs. dynamic (Ghemawat and Ricart 1993); and so on. This corpus of investigation includes the study of opposites that are contradictory yet inextricably interwoven, such as perspectives, demands, and interests (Ford and Backoff, 1988). Such opposites seem "logical in isolation but absurd and irrational when they appear simultaneously" (Lewis, 2000, p. 760). Accordingly, "organizing inherently involves contradictions" (Smith and Tushman, 2005, p. 526), and thus paradoxes have often depicted such countervailing situations.

Strategic management and coopetition inquiry concur that a paradox is "neither a compromise nor a split between competing tensions but is, rather, an awareness of both" (Eisenhardt, 2000, p. 703). Therefore, paradox implies "exploring, rather than suppressing tensions" (Lewis, 2000, p. 764), and paradoxical frames can help managers to develop mental maps based on recognizing and accepting the simultaneous occurrence of opposite forces, such as competition and cooperation (Crick and Crick, 2020; Keller and Lowenstein, 2011). However, concerning the concept of paradox, coopetition inquiry has, so far, paid no consideration to two key aspects that strategic management research has, instead, tackled. First, paradoxes can activate a "reinforcing cycle" that turns them into a double-edge sword (Lewis, 2000; Smith and Lewis, 2011; Niesten and Stefan, 2019). In particular, while tensions are triggers for change, they also make actors experiment with defensive actions that can, in turn, inhibit change. Ignoring such aspects leads coopetition discourse to miss an opportunity to dig deeper into the "dark side effects" of coopetition on the performance of firms. Second, by adopting the concept of paradox, coopetition inquiry has *de facto* wiped out the role of managers in adopting/rejecting a paradoxical frame. Thus, coopetition literature does not consider that exploring "what makes firms different" requires a preliminary answer to be found to the question of "what makes managers different" (Adner and Helfat, 2003, p. 1013). However, we do recognize that some insights on cultural cognitive frames have, in fact, been included in coopetition literature. Specifically, coopetition studies have recently developed a stimulating juxtaposition of Western and Eastern views of paradox (Dagnino and Minà, 2021). While Aristotelian formal logic enhances the biased impression that, through separation, tensions are removed, Eastern thinking posits that simplistic distinctions are useless and should be avoided. Indeed, Eastern thinking is inclined to the holistic ideal by which elements of human life are inseparable, and hence "they need not be resolved as in a dialectical situation; rather, they may be integrated harmoniously" (Chen, 2002, p. 188). This implicitly rejects the idea that managers have identical views of paradoxical frames, and thus follow the same action-and-response strategies to deal with coopetition (Keller and Loewenstein, 2011).

Linking "Which" logic of coopetition occurs with dynamic managerial capabilities

As Adner and Helfat (2003) underscored, managers adopt different managerial decisions and perform differently because of their *dynamic managerial capabilities*; namely "the capabilities with which managers build, integrate, and reconfigure organizational resources and competences" (Adner and Helfat, 2003, p. 1012). This concept encompasses three main aspects: managerial human capital (e.g., skills, managerial career paths), managerial social capital (e.g., social relationships, friendships, and membership of clubs), and managerial cognition (e.g., managerial beliefs, maps, and mental models adopted in decision-making). While the first two aspects do not directly inform coopetition studies, some authors use managerial cognition to investigate coopetition (Bengtsson et al., 2020).

Top managers' mental maps and beliefs tend to be based on past experiences rather than on current ones. Since mental maps frame the business and its critical resources, filter relevant data, and help managers develop problem-solving behaviors (Tripsas and Gavetti, 2000; Grant, 1988; Nadkarni and Barr, 2008), one might suppose that mental maps play an essential role in coopetition studies. On the contrary, while strategic management research acknowledges the role of top managers as the "central element" within the broader framework of the firm's ability to change (Rosenbloom, 2000) and take decisions, coopetition inquiry has heretofore failed to extract the reasons for which firms usually experiment with linear processes and adopt a range of strategic choices to develop coopetition paths.

Additionally, strategic management research has progressively given significant attention to managerial cognition (Cameron and Quinn, 1988; Smith and Tushman, 2005; Nadkarni and Barr, 2008), and managerial capabilities (Adner and Helfat, 2003). Indeed, managerial cognitions appear to be crucial for the development of capabilities (Felin et al., 2015; Gavetti and Rivkin, 2007). In such vein, Bengtsson et al. (2020) argue that managerial cognition represents a significant brick in the micro-foundations of a firm's coopetition capabilities. Accordingly, coopetition capabilities emerge when managers independently develop such specialized capabilities that allow them to effectively manage "cooperation in different innovation projects or manage competitive moves and countermoves of a partner" (Bengtsson et al., 2020, p. 5). Notably, such managerial capabilities may be the groundwork for generating a coopetition capabilities portfolio that may vary over time and extend to TMTs, that is, top management teams.

"HOW" COOPETITION IS DEALT WITH

"How" represents the ways in which managers deal with a firm's strategic decisions. Coopetition inquiry acknowledges that ways to tackle the simultaneous coexistence of competition and cooperation can be a challenging endeavor, since often the practice of coopetition produces ambivalence (Keller and Loewenstein, 2011; Luo and Rui, 2009; Stadtler and Van Wassenhove, 2016).

Ambivalence translates, in turn, into the emergence and management of coopetition tensions, and to the need to develop coopetition capabilities. Accordingly, over the last decade, a relevant segment of coopetition inquiry has focused on investigating the *tensions* underlying coopetition (e.g., Bengtsson, Raza-Ullah and Vanyushyn, 2016; Chou and Zolkiewski, 2018; Gnyawali, Madhavan, He and Bengtsson, 2016; Raza-Ullah, Bengtsson and Kock, 2014). Among these studies, Tidström (2014) provided a specific taxonomy of three tensions prevailing in coopetition:

1) *Role tensions*. The "duality of coexisting tensions creates an edge of chaos, not a bland halfway point between one extreme and the other. The management of this duality hinges on exploring the tension in a creative way that captures both extremes" (Eisenhardt, 2000, p. 703), and copes with "positive and negative emotions as soon as the actors cognitively evaluate its consequences" (Raza-Ullah, Bengtsson and Kock, 2014, p. 196).
2) *Knowledge tensions*. Such tensions refer to the leakage of knowledge when rival partners are interdependent and have to share valuable knowledge-intensive resources (Krishnan, Martin and Noorderhaven, 2006; Ryu et al., 2018). Under this circumstance, they are exposed to a greater risk in dealing with cooperation and competition (Arslan, 2018; Hoffmann, Lavie, Reuer and Shipilov, 2018; Dyer et al. 2018; Kale et al, 2000; Fernandez and Chiambaretto, 2016). This condition may trigger the appearance of a knowledge sharing problem, and/or a knowledge protection or appropriation concern (Arslan, 2018; Gast, Gundolf, Harms and Collado, 2019; Ho and Ganesan, 2013; Ryu et al., 2018).
3) *Relational tensions*. These relate to two relevant features: a) the existence of *unbalanced power* (Tidström, 2014), i.e., a firm may leverage its power to pursue its own interests over the other firm(s) (Khanna, Gulati and Nohria, 1998); and b) the presence of *opportunism*, i.e., a firm attempts to pursue its own interest and exploit partner conditions through guile (Williamson, 1993).

In addition to the above three kinds of coopetition tensions, Ansari, Garud and Kumaraswamy (2016) recognize a fourth kind, which they termed *intertemporal tensions*, that is, when the firms may assume a different temporal orientation, such as short term versus long term, as concerns their way of looking at the coopetitive interrelationship.

Given the relevance of such tensions, coopetition literature has also explored the modalities of managing the interplay between competition and cooperation with a view to attenuating coopetition tensions (Dorn et al., 2016). In particular, three main strategic options of managing coopetition tensions are present in the literature (Gnyawali, He and Madhavan, 2008, p. 395): (a) *spatial separation* of competition and cooperation, whereby firms create one or more units, each devoted to competitive or cooperative activities respectively (Hoffmann, Lavie, Reuer and Shipilov, 2018); (b) *temporal separation* of competition and cooperation, namely, the temporal succession of competition and cooperation (or vice versa) in the same activities in which firms compete and cooperate (Poole and Van de Ven, 1989); and (c) *temporal co-location* of competition and cooperation activities, when the same business units are devoted to both competition and cooperation simultaneously with a rival-partner (Gnyawali et al., 2008; Gnyawali and Park, 2011).

Extant coopetition inquiry has also recognized the importance of *coopetition capabilities* in allowing "firms to moderate and reduce internal and external tensions" (Bengtsson et al, 2016, p. 1). It is worth noting that, in the above section labeled "Which" logic of coopetition occurs, we introduced the concept of dynamic managerial capabilities. This is consistent with the multilevel framework of dynamic capabilities proposed by Salvato and Vassolo (2018). Indeed, dynamic managerial capabilities represent a key antecedent of dynamic capabilities, since dynamic capabilities are rooted in managerial aptitude for recognizing "whether the specific action s/he is confronting requires 'business as usual' or 'change'" (Salvato and Vassolo, 2018). Accordingly, in this section, we are concerned with how a firm implements a dynamic approach to coopetition, namely how the firm tries to deal "with the specific strategic events, given current environmental dynamics" (Salvato and Vassolo, 2018) by combining cooperation and competition with a given partner. Arguably, coopetition literature distinguishes between two kinds of *dynamic* coopetition capabilities. Type I dynamic coopetition capabilities relate to the firm's capacity to *adapt* its resources to those of the rival and proactively organize their cooperation activities to tackle rapid environmental changes (Zhou and Li, 2010). Type II dynamic coopetition capabilities relate to the firm's capacity to *leverage* the joint resources and capabilities developed in cooperation and *exploit* them for its own needs and interests (Hamel, 1991; Khanna, Gulati and Nohria, 1998).

The blocks of the coopetition map indicated in Figure 1 (i.e., the classification of coopetition tensions, modalities of managing coopetition tensions, and dynamic coopetition capabilities) are stimulated by a significant amount of strategic management research. Specifically, we consider two streams of strategy investigation: a) tensions management; and b) dynamic capabilities. We selected these two streams because they can explain how firms usually experience changes due to internal tensions or market dynamics. We shall start with the literature on tensions management.

Linking research on "How" to deal with coopetition tensions and tensions management

Fundamental strategic management issues lead to fundamental tensions (Leiblein and Reuer, 2020). Such tensions emerge when "there is a steady state in which opposing forces hold each other in check until the build-up of tension turns the static relationship into dynamic interplay – the point when the steel cable snaps" (Chen, Su and Tsui, 2007, p. 101).

Tensions surround various aspects of organizational life (Smith and Lewis, 2011): control-collaboration (Sundaramurthy & Lewis, 2003), leadership-democracy and confrontation-compromise group work (Murnighan and ConIon, 1991), flexibility-efficiency

(Adler, Goldoftas and Levine, 1999), exploration-exploitation (Andriopoulos and Lewis, 2009), and profit-social responsibility (Margolis and Walsh, 2003). For instance, product innovation development requires "managing tensions - coping with fluctuating contingencies to foster innovation and efficiency" (Lewis, Welsh, Dehler and Green, 2002, p. 546). Additionally, the "firms' simultaneous pursuit of exploration and exploitation causes organizational tensions that are difficult to resolve" (Zimmermann, Raisch and Cardinal, 2018, p. 739). This condition occurs since exploitation leverages the existing base of a firm's capabilities that, if not well deployed, may lead to competency traps and inexorably weaken the firms' ability to deal with change (Ahuja and Lampert, 2001). Conversely, exploration influences the creation of new-to-the-world capabilities that, if not properly managed, may lead to "an endless cycle of search and unrewarding change" (Zimmermann et al., 2018, p. 739).

Research on the categorization of tensions at the firm level has provided various insights on the types of tensions and the various consequences stemming from their intersections (Smith and Lewis, 2011). Other studies have enriched the debate by exploring inter-organizational tensions as they occur between partners in alliance (Das and Teng, 2000). In particular, research on managing tensions with a special focus on ambidexterity has partially informed coopetition inquiry (Smith and Lewis, 2011). Indeed, ambidexterity literature has provided several insights concerning the types of tensions (e.g., innovation tensions; Smith and Tushman, 2005), or structural solutions for resolving tensions (i.e., structural separation or dual integration of exploration and exploitation; Zimmermann et al., 2018), and has explored intersections among belonging, organizing, and performing tensions in organizational units (Smith and Lewis, 2011). Correspondingly, coopetition inquiry has delved into the inner tensions occurring between competition and cooperation activities. However, the types of tensions emerging at various organizational levels when a firm competes with its rivals have not been fully explored. Additionally, the interactions between coopetition-driven learning processes and other organizational tensions remain uncharted. In fact, coopetition inquiry falls short in understanding "efforts to adjust, renew, change, and innovate to foster tensions" (Smith and Lewis, 2011, p. 384) between current coopetition practices and potential new ones. Finally, coopetition literature has broadly ignored the relevance for firms to "constantly adapt and align their initiatives' organizational contexts" (Zimmermann et al., 2018, p. 739). In this perspective, the role of frontline managers supporting firms in managing persistent tensions and in driving change is missing in coopetition literature.

Notably, while strategic management research highlights the role of governance in cooperation (e.g., Dyer and Singh, 1998), with exception of a recent study on the architecture of coopetition (Seepana, Pulraj and Huq, 2020), there is a limited understanding of the governance mechanisms and coordination issues underlying coopetition (Bicen, Hunt and Madhavaran, 2020; Devakaronda and Reuer, 2020). In this regard, allied "firms that are direct competitors are more likely to choose an equity-based governance structure in order to mitigate exchange hazards, such as knowledge misappropriation, through carefully monitored knowledge sharing" (Lioukas and Reuer, 2020, p. 359). In this way, allied firms may introduce governance elements that safeguard their valuable knowledge base and avoid exchange hazards (Devakaronda and Reuer, 2020; Liuksas and Reuer, 2020).

Linking "How" to deal with coopetition with dynamic capabilities

Since their inception in late 1990s, dynamic capabilities studies have represented an extremely fertile ground of investigation for strategy scholars considering multiple *intellectual foci* (Zahra et al., 2006) in relation to the nature and typologies of dynamic capabilities (Eisenhardt and Martin, 2000; Winter, 2003), and their underlying drivers and processes (Helfat and Peteraf, 2009; Zahra and George, 2002; Zollo and Winter, 2002). As is well-known, dynamic capabilities investigation extends the resource-based view of the firm (Teece, Pisano and Shuen 1997; Eisenhardt and Martin, 2000), and has its roots in Schumpeterian evolutionary economics (Nelson and Winter, 1982; Helfat and Peteraf, 2009; Winter, 2003). Accordingly, Nelson and Winter (1982) view the firm as a set of interdependent routines that inspire the building of dynamic capabilities intended as "routinized activities directed to the development and adaptation of operating routines" (Zollo and Winter, 2002, p. 339). Thus, dynamic capabilities emerge through learning, knowledge articulation, and codification processes (Lane and Lubatkin, 1998; Zollo and Winter, 2002), and can explained "how firms can achieve and maintain competitive advantage in contexts of rapid technological change" (Teece et al. 1997, p. 515). A "turbulent environment, however, is not necessarily a component or precondition of dynamic capabilities" (Schilke, 2014, p. 179), and it is recognized that firm competitive advantage is more difficult to achieve through dynamic capabilities than one might initially think (Helfat and Peteraf, 2009).

Studies on dynamic capabilities and coopetition have evolved in parallel, providing various definitions. First, dynamic capabilities allow a firm to generate and modify "its operating routines in pursuit of improved effectiveness" (Zollo and Winter, 2002, p. 340), as well as to dispose of the ones related to past learning if they are unused for long periods (Helfat and Peteraf, 2009). However, and quite surprisingly, coopetition studies have typically referred to relatively stable and standardized environments, with the main focus being the dynamism underlying coopetitive relationships, thereby ignoring the relevance of updating routines in order to face changing environments.

Second, strategic management research has examined the link between dynamic capabilities and operating routines, as Zollo and Winter (2002) and Winter (2003) suggested. Routines are recognized as the "building blocks of organizational capabilities" (Schreyogg and Kliesch-Eberl, 2007, p. 915). However, the propensity of firms to reiterate good decisions/solutions can generate paradoxes and dilemmas stemming from capability-rigidity drivers that are path dependent, structurally inert, and committed, for which it is important to develop a monitoring capability (Schreyogg and Kliesch-Eberl, 2007). Arguably, coopetition inquiry first and foremost emphasizes a firms' ability to manage coopetition, thereby overlooking the impact of developing routines for managing rivals in coopetition. Of note, routines have been shown to enhance learning (Cohen and Levinthal, 1990; Zahra and George, 2002), and to reduce uncertainty (Nelson and Winter, 1982), since they allow a standardized and more structured labor division in face of environmental uncertainty (Alvarez and Porac, 2020). In fact, studies on coopetition capabilities have heretofore fallen short in consistently considering the contingent role of stable versus turbulent environments for the development of dynamic coopetition capabilities (Helfat and Winter, 2011; Schilke, 2014; Salvato and Vassolo, 2018).

Third, coopeting firms may have a different "capacity to develop these capabilities, especially when the object of adaptation has to do with cognitive and relational elements" (Zollo, Bettinazzi, Neumann, and Snoeren, 2016, p. 227). Indeed, a hidden reference to learning theory informing coopetition lies in the adage: "the more you coopete, the more you will be able to manage the next round of coopetitive interaction." This idea is grounded in the cognitive elements of coopetition capabilities (Bengtsson et al., 2016), while the relational elements have not been explored in full. In fact, coopetition capabilities studies have limited itself almost exclusively and extensively to Vassolo and Anand (2008)'s "dynamic alliance capability", that is, the organization's ability to select reliable partners and develop a relationship in a way that would enhance knowledge achieved through the alliance (Anand, Oriani and Vassolo, 2010).

"WHAT" THE PERFORMANCE EFFECTS OF COOPETITION ARE

“What” represents the key basic question concerning the consequences managers need to ponder in taking strategic decisions. Indeed, “What” is related to the quest for firm performance and for firm competitiveness/competitive advantage.

Studies exploring the performance effects of coopetition have considered essentially four key issues (see Figure 1). The first issue of the performance effects of coopetition refers to the achievement of *innovation performance* (Ang, 2008; Afuah, 2000; Quintana-Garcıa and Benavides-Velasco, 2004; Hamel, Doz and Prahalad, 1989; Ratzmann, Gudergan and Bouncken, 2016; Yami and Nemeh, 2014). Scholars generally agree on the positive effect of coopetition on stimulating innovation and hence on innovation performance. The latter effect occurs especially when competition is moderately high and cooperation is high (Chen, Yao, Zan and Carayannis, 2020). This condition occurs because, in the presence of higher levels of competition and lower levels of cooperation, innovation performance may suffer from intensified coopetition tensions (Park et al., 2014; Chai, Li, Tangpong and Clauß, 2019; Ritala, 2012). On another tack, Wu (2014) showed that cooperation with competitors forms an inverted U-shape in relation to product innovation. Interestingly, in such a way, coopetition experience may have a detrimental effect on R&D investment. However, firms may “counteract the ‘dark side’ of coopetition experience through substantial IT investment” (Estrada & Qi Dong, 2020, p. 1). Overall, coopetition innovation performance literature acknowledges firms’ role in combining and recombining knowledge, and absorptive capacity in attaining Schumpeterian rents.

The second issue of the performance effects of coopetition concerns the achievement of *market performance* (Ritala and Hurmelinna-Laukkanen; 2009). In this regard, Ritala (2018) acknowledges four main drivers of coopetition: (a) the sharing of tangible and intangible resources; (b) the growth and development of markets; (c) the creation of new markets (Garrette et al., 2009); and (d) competitive dynamics (Gnyawali and

Madhavan, 2001). Coopetition may, indeed, be instrumental in improving customer orientation and market entry, especially in the presence of multimarket competition (Klein, Semrau, Albers and Zajac, 2020). More generally, coopetition inquiry has drawn extensively on the resource-based view of the firm in order to shed light on the market performance effects of coopetition, since the resource-based view stems from the firms' capacity to combine and recombine valuable resources, according to which (rival) partners may attain Ricardian rents.

The third issue of the performance effects of coopetition relates to the achievement of *financial performance* (Luo, Rindfleisch and Tse, 2007; Ritala, Hallikas and Sissonen, 2008). In this regard, coopetition studies acknowledge that coopetition allows the attainment of financial performance (Crick and Crick, 2021), even if this outcome depends on the number of coopetitors that are present (Ritala, Hallikas, Sissonen, 2008), and is mediated by market learning (Luo, Slotegraaf, Pan, 2006) and efficient consumer response.

The last issue of the performance effects of coopetition concerns *environmental, social and governance performance* (Stadtler, 2018; Volschenk, Ungerer and Smit, 2016), whose relevance has experienced exponential growth in recent years (Sodhi and Tang, 2020). Accordingly, some authors have started to explore the role of coopetition in the context of corporate social responsibility (Scandelius and Cohen, 2016), while others have considered some of the challenges stemming from the issue of environmental sustainability, as well as from how coopetitive practices may support sustainable development (Christ, Rubbitt, and Varsei, 2017). Nonetheless, despites the evident increasing interest in environmental, social, and sustainable performance, an adequate understanding of the link between coopetition and sustainability research and between coopetition and how managers balance the countervailing interests of various stakeholders in governing their firms is still lacking (O'Riordan and Fairbrass, 2013).

In addition to the analysis of the effect of coopetition on the four performance types, we observe that, though the amount of studies focusing on such an effect has increased rapidly over the last decade, they still provide a "rich but thus far inconclusive account of how coopetition affects firm performance" (Ritala, 2012, p. 307), as the outcomes they provide are still far from reaching unambiguous scholarly consensus (Knudsen, 2007; Ritala and Hurmelinna-Laukkanen, 2009, 2013). On one hand, coopetition has allowed "performance levels beyond what would otherwise have been possible, (…) [and] changed the timeframe, permitting earlier achievement of higher performance levels" (Peng Pike, Yang and Roos, 2012, p. 532). On the other hand, we recognize that coopetition has a "dark side" (Park and Russo, 1996), associated with partners' similarity in competitive moves. This condition, in turn, relates to the co-learning processes developing between partners, since the start of coopetition (Peng, Yen and Bourne, 2018; Wang, Dolfsma and van der Bij, 2019), and the coopeting partner risk of clashing over the long-term appropriation of value (Chou and Zolkiewski 2018).

The abovementioned performance blocks of the coopetition research map (i.e., innovation performance, market performance, financial performance, and social, environmental and governance performance; see Figure 1) have been largely inspired by the bulk of mainstream strategic management research[5]. Specifically, in linking research on "What" the performance effects of coopetition are, one of the basic questions in strategy has always been what makes firms perform differently or heterogeneously (Rumelt et al., 1994; Leiblein and Reuer, 2020), as well as "what determines success or failure in (..) competition" (Leblein and Reuer, 2020, p. 6). Consequently, it is unsurprising that coopetition studies employ various dependent variables concerning the different types of performance measures that are present in strategic management research. In such regard, coopetition inquiry is, to a

[5] In this regard, Durand, Grant, and Madsen (2017) found that, among 421 articles published in the *Strategic Management Journal*, between 2009 and 2013, authors considered primarily financial performance, innovation performance, corporate social responsibility, stakeholder performance, and reputation.

large extent, a mirror image of strategic management research. Accordingly, rather than lingering on theories to explain the coopetition effect on a specific type of performance (for which the references are reported in Figure 2), we shall move on to explore why coopetition inquiry acknowledges a high variability in performance between rival partners. This aspect is deeply rooted in strategic management investigation on value creation and value appropriation. We will thus examine the role of extant strategic management research on value creation and value appropriation in the development of coopetition studies.

Linking research on "What" the performance effects of coopetition are with value creation and value appropriation

Coopetition inquiry has hitherto drawn mainly on studies emphasizing the benefits of cooperation in terms of reducing costs and sharing risks (Reuer and Zollo, 2005; Bouncken, Gast, Kraus and Bogers, 2015). However, the advantage of cooperation between competitors may be asymmetric as concerns the appropriation hazard between partners (Lioukas and Reuer, 2020). Accordingly, strategic management research has emphasized "the competitive tensions inherent in collaborations between direct rivals" (Ryu et al., 2018, p.945), and challenges stemming from the protection of knowledge between them. Coopetition inquiry has implicitly assumed that alliances between rivals have variable results (Hamel, 1991; Lado, Boyd and Hanlon, 1997), because of the interplay between value creation and value appropriation (Khanna et al. 1998). While "value creation has been typically tied to cooperation, (…) value appropriation has been ascribed to competition. But this need not be always the case" (Hoffmann, Lavie, Reuer and Shipilov, 2018, p. 19), since "we know little about what accounts for variance in performance of coopetitive alliances" (Makarevich, 2018, p. 3248). For instance, the firms' specificities (such as the degree of product substitution and efficiency), industry factors (such as negotiation power), and external contingencies may have an impact on firm performance (Chen, Wang and Xia, 2019; Ritala, 2012; Yan, Qi Dong and Faems, 2020). Overall, “firms need a ‘balancing act’ between inputs to value creation and the relative share of value captured.” (Bouncken et al., 2020, p. 245), and between private and common benefits (Khanna, Gulati and Nohria, 1998).

Given the above, a common wisdom in coopetition literature is that “the company is capable of assimilating — and potentially misappropriating — the technology of the [rival partner] company” (Mason and Drakeman, 2014, p. 1564). Thus, coopetition literature implicitly refers to the potential problems of value misappropriation, often referred to as the “swimming with sharks dilemma” (Zhu and Liu, 2018, p. 2621). This aspect is relevant in order to “dynamically consider how cooperation (actions for value creation) and competition (actions for value capture) evolve over time” (Dyer et al. 2018, p. 3142). This is, furthermore, important when characteristics shaping value creation (such as trust, repeated ties, and customized assets) also bear the seeds for reducing the value created (Arslan, 2018; Belderbos, Cassiman, Faems, Leten and Van Looy, 2014; Dyer et al. 2018).

AN INFORMED PLATFORM FOR FUTURE RESEARCH ON COOPETITION

We have shown that, to a large extent, coopetition literature has hitherto developed, so to speak, “outside” of the inner core of the strategic management field. Accordingly, coopetition inquiry has possibly both benefitted and suffered from this condition. On the one hand, it has granted coopetition scholars some creative-exploratory space independent from the strategic management core. On the other hand, it has also led to the development of a partial, pre-theoretical, relatively narrow, and somewhat fragmented stream of intellectual inquiry. This reveals the need for stronger theoretical foundations and contextualization[6] of the coopetition inquiry efforts. Table 2 summarizes emergent links and potential future research links between strategic management research and coopetition inquiry.

[6] We thank an anonymous reviewer for suggesting this point.

Insert Table 2 here

Notwithstanding the multiple advances that the understanding of coopetition has made in the last decade, we maintain that there exist various opportunities for pursuing conceptual and empirical developments in this relevant stream of the strategic management domain. By performing this study and linking coopetition with the body of strategic management research, we show that the next wave of development in coopetition studies should expect to be more suitably connected to current strategic management research if it wants to take significant steps forward and make considerable advancement in both coopetition theory and practice.

By taking into account strategic management theories that may be deemed the most promising starting points for future advancements in coopetition, in this section, we pull together and discuss a platform for future research on coopetition, organizing the platform for advancing a coopetition agenda with two main subsections. The first draws on existing theories that have been already adopted in coopetition studies, while the second encompasses theoretical opportunities that have not yet been adopted in coopetition inquiry. In such way, the work is expected to stimulate additional fruitful conversation on coopetition within the various domains of strategic management that we report below.

Future coopetition research applying contingency theory

Contingency theory applied to coopetition highlights an opportunity to consider industry characteristics in understanding the choice to implement a coopetitive strategy and its performance. For instance, the ability to generate cooperative advantage for firms competing in different industries is a significant and distinctive capability that supports firms' building of a coopetitive advantage (Lavie, 2006; Cozzolino and Rothaermel, 2018). We believe that it would be helpful to carry out a series of empirical cross-industry analyses exploring interactions across industries and countries in order to gain a better understanding of the specific conditions supporting the emergence and evolution of coopetition strategy. In such regard, one might suppose that initial cooperation between firms competing in different industries leads to efficiency that, in turn, increases their rivalry. This research may be conducted by accurately weighing these contexts alongside other contexts where coopetition strategy is not likely to happen.

Additionally, drawing on research that has employed contingency theory to explore the drivers of coopetition, we call for studies linking context-coopetition and strategy-performance. From such a perspective, we advance the following research question: how do the drivers of coopetition affect the coopetition pattern and, in turn, innovation performance?

Future coopetition research applying competitive dynamics

Despite competitive dynamics representing a relevant segment of the strategy groundwork in coopetition inquiry, we acknowledge opportunities are being missed in applying the insights and constructs developed in the competitive dynamics domain to coopetition. First, we call for the incorporation into coopetition literature of the awareness-motivation-capability framework (Chen et al., 2007). Such incorporation may offer interesting insights for "predicting a competitor's response as to projecting a joint venture partner's reaction, so long as one strives to understand a situation from the other party's viewpoint" (Chen and Miller, 2012, p. 171). However, we also acknowledge that it is crucial to consider that it is frequently unclear in the beginning what kind of end-line might possibly spur the cooperative and competitive sequence of moves (and countermoves) that will likely be deployed by rival partners in coopetition. In addition, in the sequence of cooperative/competitive actions and cooperative/competitive responses, it would be interesting to identify the key relational features epitomizing the two phases of action and response (Chen and Miller, 2012).

Second, complementary to the previous line of research, we call for studies exploring whether the affirmation of a specific logic depends on the resource characteristics of competing partners that, in turn, may follow dissimilar logics. By delving into the connective fabric of coopetition logics, we are confident that future coopetition inquiry might show how it is possible to make the crucial transition not only from one logic to the other, but also from the study of competitive and cooperative dynamics to that of coopetition dynamics.

Third, coopetition studies largely overlook that, in the partner selection process, both players create value (Katila et al., 2008). Conversely, coopetition inquiry focuses more on the hidden consequences of the "swimming with sharks" dilemma, for which the rival partner may have incentives to use its ability to appropriate more value than it creates (Diestre and Rajagopalan, 2014). Thus, coopetition inquiry has hitherto referred more to rival partners' value misappropriation rather than on balancing value creation and value appropriation. In addition, "any change that a partner makes is going to affect the other partner in unplanned ways" (Krishnan, Martin and Noorderhaven, 2006). Indeed, coopetition inquiry has overlooked studying the drawbacks stemming from mistaken rival-partner selection and misguided rival-partner actions. Here, the impact is even more severe and adverse in the case of intentional mistakes or unfair actions. In this regard, we call for qualitative and quantitative studies to examine the role of *unfairness* in coopetitive alliances (Sabri, Djedidi and Hani, 2020).

Fourth, we would like to draw attention to multimarket competition and coopetition. As Tsai et al. (2011, p. 761) note, "seeing through the eyes of a rival allows a focal firm to comprehend the rival's competitive concerns and priorities and eventually increases the focal firm's chances of outcompeting the rival." Accordingly, firms may have different perceptions of their rivalry. Therefore, "uniqueness and asymmetry of perceptions among the parties is fundamentally fluid and involves a constant, intricate interplay between competitive and cooperative forces" (Chen and Miller, 2012, p. 50). Arguably, "the competitive intensity a firm experiences generally increases with the number of alliances that its rivals form" (Silverman and Baum, 2002, p. 791-792). On the other hand, the "firms' alliances weaken its rivals by denying them access to desirable partners and resources" (Silverman and Baum 2002, p. 791). Unfortunately, with a few exceptions (Gnyawali and Madhavan, 2001; Park et al., 2014; Bouncken et al., 2020), mainly relating to multimarket competition (Klein et al., 2020; Ryu, Reuer and Brush, 2020), alliance-based coopetitive dynamics (Silverman and Baum, 2002; Crick and Crick 2021) and the counteracting competitive effects of alliances for rivals has heretofore found little harbor in coopetition studies. Drawing on Ryu et al. (2015), we encourage scholars to examine whether and how multimarket competition fosters coopetition (Klein et al., 2020; Ryu et al., 2020).

Future coopetition research applying the strategy-formulation and strategy-implementation perspective

Extant coopetition inquiry has hitherto fallen short of tackling the question of how managers make the crucial decision to coopete (Ocasio, 1997). Indeed, while coopetition is usually sought in order to achieve "clearly defined benefits with fitting partners" (Czakon at al., 2020, p. 1), we tend to overlook the process underlying how this crucial decision is taken. In addition, coopetition inquiry has neglected to investigate the impact of strategists' psychological attributes on the formulation of coopetition strategy (Hambrick and Mason, 1984; Hutzschenreuter and Kleindienst, 2006). Thus, we can be certain that a more inclusive understanding of the strategy formulation process leading to coopetition is lacking and calls for future investigation.

Future coopetition research applying the dominant logic and management cognition

According to Cyert and March (1963), strategic goals are linked to aspiration levels, and, more importantly, managerial attention focuses on the goals that the firm could not achieve. However, non-achieved (or secondary) goals appear to affect the search process that firm decision makers (e.g., top managers and board members) engage in to identify the potential menu of their strategic actions, and, in such way, the firm's capacity to achieve its main goal. Indeed, the "limited attention spans of decision makers lead them to array simultaneous goals in means-ends hierarchies" (Bromiley, Koumakhov, Rousseau and Starbuck, 2019, p. 1522).

However, with the notable exception of scholars that have "focused on behavioral (rather than structural) aspects of competition and cooperation among firms" (Lado et al., 1997, p. 1997), perspectives on the implications of cognition (Barr et al., 1992; Tripsas and Gavetti, 2000) and organizational learning (March, 1991; Levinthal and March, 1993) have not been incorporated in coopetition studies (for instance, in better grasping why coopetition occurs). As such, extant coopetition studies have fallen short in addressing the question of how decision makers define their agenda and how their attention is directed in the firm context (Hutzschenreuter and Kleindienst, 2006). Therefore, the issue of understanding the behaviors of coopetition-oriented decision makers (e.g., top managers and board members) and how and why it has an impact on firm performance would certainly be a fruitful terrain for future inquiry.

Finally, coopetition inquiry has fallen heretofore short in tackling the set of governance mechanisms underlying coopetition strategy as they are integrated in the beliefs, values, and actions of leaders and managers. These governance mechanisms may, in fact, be beneficial in generating a specific context that fosters both cooperation and competition (coopetition) between firms' divisions or businesses (Bicen, Hunt and Madhavaram, 2020; Amata, Dagnino, Minà and Picone, 2021). In such a direction, future coopetition studies may focus on the mixed managerial motives that stimulate the emergence of coopetition, such as trust stemming from prior and repeated interactions with the same rival partner (Reuer and

Zollo, 2005), fairness, opportunism (Williamson, 1993), knowledge leakage or misappropriation (Ryu et al., 2018), and how these may ultimately affect firm performance.

Future coopetition research applying the dynamic capabilities perspective

This paper shows that coopetition inquiry has echoes of studies performed from the dynamic capabilities perspective. Specifically, we have singled out two types of dynamic coopetition capabilities. Type I dynamic coopetition capabilities represent *adaptive* coopetitive capabilities, i.e., through enhanced competition among partners allied firms may develop additional coopetition capabilities with the aim of being capable to tackle head-on competition that coopetitors may simultaneously face in the activities in which they are not cooperating. Type II dynamic coopetition capabilities have, instead, been labeled *proactive* coopetition capabilities. The greater the coopetition proactive capabilities, the more likely coopetitors will more rapidly exploit the acquired knowledge, spreading out from the coopetition alliance to, therefore, “keep ahead of industry trends” (Liao and Yu, 2013, p. 815). By discerning in more detail the specific features of the two types of dynamic coopetitive capabilities, we, therefore, expect future coopetition studies to reveal dynamic coopetitive capabilities antecedents and their development process, as well as to assess their consequences on firm performance.

Furthermore, while some debate has recently emerged on the contextual characteristics that guide competing firms to build cooperative, long-term relationships with one another (Klein, Bortolaso and Minà, 2020), what remains unclear is how firms’ coopetition *dynamically evolves* over time. Since the nature of cooperation and competition interaction is intrinsically complex, dynamic, and instable (Dagnino and Rocco, 2009), further research should consider the possibility of identifying typical paths and fallouts of coopetition strategies, and how a coopetition cycle, that has been earlier termed as “coopetition lifecycle,” is in play (Dagnino, 2009). In this vein, the development of organizational-level, coopetition-oriented routines and dynamic coopetition capabilities is expected to be crucial in laying the groundwork for fostering the emergence and affirmation of the coopetition lifecycle. Thus, we encourage scholars to pay attention to the existence of coopetition dynamic capabilities and their related mechanisms of managing coopetition as crucial aspects that may ultimately lead to enhanced innovation performance from coopetition between and among firms. In this regard, we argue that, since the coopetition-performance relationship is highly context dependent, it might possibly assume different forms relating to different types of performance (e.g., innovation, market, financial, and environmental and social performances).

Future coopetition research applying the organization tensions perspective

While the identification of the antecedents of coopetition has been instrumental in opening up coopetition to scholarly inquiry, a more detailed, thorough, and precise understanding of the effect that each single coopetition driver/antecedent has on the ways in which firms are organized, and, in turn, on the emergence of specific tensions is lacking. We, therefore, encourage future coopetition inquiry to delve into this relevant aspect.

Future coopetition research applying the competitive dynamics perspective

First, as concerns the application of competitive dynamics to coopetition, we can suppose the existence of a "coopetition red queen effect," with firms deciding to cooperate with rivals to generate innovations and develop new knowledge. However, the escalation of cooperative and competitive actions may conversely lead the same rival firms to "end up racing as fast as they can just to stand still relative to competitors" (Derfus, Maggitti, Grimm and Smith, 2008, p. 61). We, therefore, encourage future empirical investigations on the coopetition red queen effect that might show a "coopetition reverse outcome," under which it would make it better to suspend or even discontinue the competition side of coopetition. This condition may also end up showing the need to increase, at least temporarily, the cooperation side of coopetition to countervail the coopetitive red queen effect. Additionally, by exploring the short- and long-term implications of coopetition, this stream of research may contribute to describing the role of coopetition vis-à-vis temporary competitive advantage. How does coopetition contribute to generating a sequence of competitive (or coopetitive) advantages?

Additional research opportunities

In framing coopetition within strategic management research, we see that "*context and structure* matter in an integral and systemic way" (Mahoney and McGahan, 2007, p. 82). Coopetition studies, in fact, implicitly draw on research on organization-environment relations (Chung and Cheng, 2019), according to which "environments pose constraints and opportunities to organizational action" (Tushman and Anderson, 1986, p. 439). Specifically, consistent with extant coopetition literature, the presence of *uncertainty* defines a specific setting in which firms acknowledge the relevance of coopeting with rivals rather than cooperating with a partner (Chiambaretto and Fernandez, 2016; Galkina and Lundgren-Henriksson, 2017) in order to face environmental changes (Chai, Li, Clauß, and Tangpong, 2019). While coopetition is more likely to occur in the face of greater technological and market uncertainties (Bouncken and Kraus, 2013; Chai et al., 2019; Ritala, 2012), except one study on technological uncertainty (Chai et al., 2019), uncertainty literature (Knight, 1921; Milliken, 1987), as well as the link between uncertainty and firm coopetitive actions, can be deemed the "great absentee" in coopetition studies. Indeed, the literature takes a deterministic approach that defines the setting for why coopetition may occur (Chiambaretto and Fernandez, 2016), thereby missing the opportunity to investigate whether and under which conditions firms differ in coping with uncertainty[7]. Thus, we suggest scholars investigate further the role of uncertainty in shaping the interplay of cooperation and competition. Additionally, since the presence of *behavioral uncertainty* plays a crucial role in the

[7] This is true for all but a few recent studies, such as Chai, Li, Clauß, and Tangpong (2019).

cooperation between and among rivals, we encourage future coopetition inquiry to give consideration to this relevant aspect of uncertainty.

Second, while the early cradle of coopetition inquiry was game theory (Brandenburger and Nalebuff, 1996), and, over time, it has taken into account other strategy theoretical perspectives (such as competitive dynamics, managerial cognitions, and dynamic capabilities), agency theory has heretofore fallen short of being an inspiration for coopetition scholars. Consequently, we suggest future coopetition studies dig deeper into how the adoption of agency theory may shed light in various coopetition issues, such as the mixed motives firms have to consider when they choose a coopetition strategy. As Lee and Zhong (2020) underscore, while extant coopetition studies mainly focus on within-dyad opportunism, they miss out on dealing with pro-relational opportunism, which occurs by transgressing societal norms that enhance the benefits of the coopetitive relationship. Future studies may, hence, look at the effects of the bright and dark sides of opportunism in coopetitive agreements.

Third, the coopetition literature map we have proposed recognizes the possibility that different coopetition *patterns* may affirm themselves over time. In this regard, we encourage strategy scholars to examine in depth the mechanisms linking the key questions underlying the coopetition body of inquiry. For instance, we may realize that the 'Where' coopetition occurs (i.e., the institutional setting), may interact with 'With whom', 'When', 'Which' (i.e., from/to logic), 'How', and 'What', in terms of the implications for coopetition. Future coopetition studies may be relevant in exploring questions such as: what are the performance effects of coopetition in connection with the coopetition logic adopted? Where is the coopetition locus located in connection with how coopetition may occur?

Fruitful conversation on coopetition promises to arise from productive trade between coopetition literature and theories developed in other important scholarly domains that are traditionally germane or cognate to strategic management research. We refer, in particular, to the realms of "knowledge and innovation management", "international business", "strategic entrepreneurship", "strategic leadership and corporate governance", and "organizational design." From this perspective, the kind of dialogue we have embarked upon in this paper is, in turn, likely to promote successive rounds of exchange and cross-fertilization within, between, and among these significant streams in management research.

Last but not least, since this paper focuses on coopetition at the dyadic inter-firm level, future studies may consider retracing the key constructs embedded in strategic management research that have informed the advancement of the coopetition stream at different levels of analysis. A summary of the main research lines is provided in Table 3.

Insert Table 3 here

Insights for management practice

Once coopetition has been accepted by a good proportion of managers in industry as a third strategic option, beyond sheer competition and sheer cooperation, that they may pursue even *pro tempore*, it becomes important for them to re-consider the motives (exogenous or endogenous) that lie at the very foundation of the strategic decision to coopete. This concerns the mutual advantages that competing firms may achieve over time and maintain by concurrently cooperating in certain activities. On the exogenous side, such coopetition-enhancing conditions have been highly amplified and accelerated by the onset of the Covid-19 pandemic and the higher level of uncertainty and ambiguity it has inevitably generated on a global scale. On the endogenous side, managers need to acknowledge that, while the use of a coopetitive strategy generates, between firms and inside the same firm, tensions that certainly need to be tackled and mitigated, it is also a way of infusing endogenous pressure to innovate and to increase market and social performances by providing managers and employees with new benchmarks and new fruitful routines to deal with.

CONCLUSION

By providing an in-depth critical review of coopetition inquiry, this paper has offered a comprehensive map of coopetition literature, as well as a platform for a suite of new research opportunities in this important line of strategic management. By digging into the fundamental questions of strategic management research, we have clarified not only the main concepts that coopetition inquiry uses, but also the rewarding trade that it is possible to establish between coopetition and strategic management research. In such a way, we have managed to achieve a more profound understanding of the potential of coopetition inquiry, thereby re-positioning it within the strategic management domain. In short, we can say that we have found the key to unfastening the cage where coopetition has for too long been locked up like a "wild tiger."

REFERENCES

Adner, R., and C. E. Helfat. 2003. "Corporate effects and dynamic managerial capabilities". *Strategic Management Journal* 24(10): 1011-1025.

Adler, P. S., B. Goldoftas and D. I. Levine. 1999. Flexibility versus efficiency? A Case Study of Model Changeovers In the Toyota Production System. *Organization Science* 10(1): 43-68.

Afuah, A. 2000. "How Much Do Your Co-Opetitors' Capabilities Matter in the Face of Technological Change?". *Strategic Management Journal* 21(3): 397-404.

Afuah, A. 2004. "Does A Focal Firm's Technology Entry Timing Depend on the Impact of the Technology on Co-Opetitors?". *Research Policy* 33(8): 1231-1246.

Alvarez, S., J. Porac. 2020. "Imagination, Indeterminacy, and Managerial Choice at the Limit of Knowledge". *Academy of Management Review*, (forthcoming)

Amata, R., Dagnino, G. B., Minà, A. & Picone P. M. 2021. Managing Coopetition in Diversified Firms: Insights from a Qualitative Case Study, *Long Range Planning*, 102128.

Anand, J., R. Oriani R. S. Vassolo. 2010. "Alliance Activity as a Dynamic Capability in the Face of a Discontinuous Technological Change. *Organization Science* 21(6): 1213-1232.

Andriopoulos, C. and M. W. Lewis. 2009. Exploitation-exploration tensions and organizational ambidexterity: Managing paradoxes of innovation. *Organization Science* 20(4): 696-717.

Ang, S. H. 2008. "Competitive intensity and Collaboration: Impact on Firm Growth across Technological Environments". *Strategic Management Journal*, 29(10): 1057-1075.

Ansari, S., R. Garud and A. Kumaraswamy. 2016. "The Disruptor's Dilemma: TIVO and the US Television Ecosystem". *Strategic Management Journal* 37(9): 1829-1853.

Arslan, B. 2018. The interplay of competitive and cooperative behavior and differential benefits in alliances. *Strategic Management Journal 39*(12): 3222-3246.

Ahuja, G. and C. M. Lampert. 2001. Entrepreneurship in the large corporation: A longitudinal study of how established firms create breakthrough inventions. *Strategic Management Journal* 22(6-7): 521-543.

Barney, J. 1991. "Special Theory Forum the Resource-Based Model of the Firm: Origins, Implications, and Prospects". *Journal of Management*. 17(1): 97-98.

Baum, J. A. and H. J. Korn. 1996. "Competitive Dynamics of Interfirm Rivalry". *Academy of Management*

Journal. 39(2): 255-291.
Belderbos, R., B. Cassiman, D. Faems, B. Leten and B. Van Looy. 2014. Co-ownership of intellectual property: Exploring the value-appropriation and value-creation implications of co-patenting with different partners. *Research policy 43*(5): 841-852.
Bengtsson, M. and S. Kock. 2000. "Coopetition" in Business Networks—to Cooperate and Compete Simultaneously". *Industrial Marketing Management* 29(5): 411-426.
Bengtsson, M., and T. Raza-Ullah. 2016. "A Systematic Review of Research on Coopetition: Toward a Multilevel Understanding" *Industrial Marketing Management*, 57: 23-39.
Bengtsson, M., T. Raza-Ullah, and V. Vanyushyn. 2016. "The Coopetition Paradox and Tension: The Moderating Role of Coopetition Capability". *Industrial Marketing Management* 53: 19-30.
Bengtsson, M., T., Raza-Ullah, and M. K Srivastava. 2020. "Looking different vs thinking differently: Impact of TMT diversity on coopetition capability". *Long Range Planning* 53(1): 101857.
Bettis, R. A., and C. K. Prahalad. 1995. "The dominant logic: Retrospective and extension". *Strategic Management Journal* 16(1): 5-14.
Bicen, P., S. D. Hunt and S. Madhavaram. "Coopetitive Innovation Alliance Performance: Alliance Competence, Alliance's Market Orientation, and Relational Governance". *Journal of Business Research*, *123*, 23-31.
Bouncken, R. B. and S. Kraus. 2013. "Innovation in Knowledge-intensive Industries: The Double-Edged Sword of Coopetition". *Journal of Business Research* 66(10): 2060-2070.
Bouncken, R. B., J. Gast, S. Kraus and M. Bogers. 2015. "Coopetition: A Systematic Review, Synthesis, and Future Research Directions". *Review of Managerial Science* 9(3): 577-601.
Bouncken, R. B., V. Fredrich, S. Kraus and P. Ritala. 2020. "Innovation Alliances: Balancing Value Creation Dynamics, Competitive Intensity and Market Overlap". *Journal of Business Research* 112: 240-247.
Brandenburger, A. M. and B. J. Nalebuff. 1996. *Co-opetition*. New York: HarperCollins Business.
Bromiley, P., & Rau, D. (2016). Social, behavioral, and cognitive influences on upper echelons during strategy process: A literature review. *Journal of Management*, *42*(1): 174-202.
Cameron, K. S. and R. E. Quinn. 1988. "Organizational paradox and transformation". Quinn R. E. and K. S. Cameron (Eds.). *Ballinger series on innovation and organizational change. Paradox and transformation: Toward a theory of change in organization and management* (p. 1–18). Ballinger Publishing Co/Harper & Row Publishers.
Campbell, J. P. 1990. The role of theory in industrial and organizational psychology. In M. D. Dunnette and L. M. Hough (Eds.), Handbook of industrial and organizational psychology, vol. 1: 39-74. Palo Alto, CA: Consulting Psychologists Press.
Carayannis, E. G. and Alexander, J. 2001. "Virtual, Wireless Mannah: A Co-Opetitive Analysis of the Broadband Satellite Industry". *Technovation* 21(12): 759-766.
Carroll, G. R. 1993. "A Sociological View on Why Firms Differ". *Strategic Management Journal* 14(4): 237-249.
Caves, R. E. and M. E. Porter. 1977. "From Entry Barriers to Mobility Barriers: Conjectural Decisions and Contrived Deterrence to New Competition". *Quarterly Journal of Economics*, 241-261
Chai, L., J., Li, C. Tangpong and T. Clauß. 2019. "The Interplays of Coopetition, Conflicts, Trust, and Efficiency Process Innovation in Vertical B2B Relationships". *Industrial Marketing Management*. *85*: 269-280.
Chandler, J. A., O. V. Petrenko, A. D. Hill and N. Hayes. 2020. "CEO Machiavellianism and Strategic Alliances in Family Firms". *Family Business Review*. 0894486520938890.
Chen, M. J. 1996. "Competitor Analysis and Interfirm Rivalry: Toward A Theoretical Integration". *Academy of Management Review* 21(1): 100-134.
Chen, M. J. 2002. "Transcending paradox: The Chinese "middle way" perspective". *Asia Pacific Journal of Management* 19(2-3): 179-199.
Chen, M. J. and D. Miller. 2011. "The Relational Perspective as a Business Mindset: Managerial Implications for East and West". *Academy of Management Perspectives* 25(3): 6-18.
Chen, M. J. and D. Miller. 2012. "Competitive Dynamics: Themes, Trends, and a Prospective Research Platform". *Academy of Management Annals* 6(1): 135-210.
Chen, M. J. and D. Miller. 2015. "Reconceptualizing Competitive Dynamics: A Multidimensional Framework". *Strategic Management Journal* 36(5): 758-775.
Chen, M. J. and I. C. Macmillan. 1992. "Nonresponse and Delayed Response to Competitive Moves: The Roles of Competitor Dependence and Action Irreversibility". *Academy of Management Journal* 35(3): 539-570.
Chen, M. J., K. G. Smith and C. M. Grimm. 1992. "Action Characteristics as Predictors of Competitive Responses". *Management Science* 38(3): 439-455.
Chen, M. J., K. H. Su and W. Tsai. 2007. "Competitive Tension: The Awareness-Motivation-Capability Perspective". *Academy of Management Journal* 50(1): 101-118.

Chen, X., X. Wang and Y. Xia. 2019. "Production Coopetition Strategies for Competing Manufacturers that Produce Partially Substitutable Products". *Production and Operations Management* 28(6): 1446-1464.
Chiambaretto, P. and A-S. Fernandez. 2016. "The Evolution of Coopetitive and Collaborative Alliances in an Alliance Portfolio: The Air France Case". *Industrial Marketing Management* 57: 75-85.
Chiambaretto, P., M. Bengtsson, A-S. Fernandez and M. H. Näsholm. 2020. "Small and Large Firms' Trade-off between Benefits and Risks When Choosing a Coopetitor for Innovation. *Long Range Planning* 53(1): 101876.
Chim-Miki, A. F. and R. M. Batista-Canino. 2017. "Tourism Coopetition: An Introduction to the Subject and a Research Agenda". *International Business Review* 26(6): 1208-1217.
Chou, H. H. and J. Zolkiewski. 2018. "Coopetition and Value Creation and Appropriation: The Role of Interdependencies, Tensions and Harmony". *Industrial Marketing Management* 70: 25-33.
Chung, H. M. and L. H. Cheng. 2019. "Coopetition and Firm Survival in a Cluster: Insights from the Population Ecology on the Yacht Industry in an Emerging Economy, 1957–2010". *Management and Organization Review* 15(4): 837-856.
Chung, S., H. Singh and K. Lee. 2000. "Complementarity, Status Similarity and Social Capital as Drivers of Alliance Formation". *Strategic Management Journal* 21(1): 1-22.
Clarke-Hill, C., H. Li and B. Davies. 2003. "The Paradox of Co-Operation and Competition in Strategic Alliances: Towards a Multi-Paradigm Approach". *Management Research News* 26(1): 1-20.
Cohen, W. M. and D. A. Levinthal. 1990. "Absorptive Capacity: A new Perspective on Learning and Innovation". *Administrative Science Quarterly*: 128-152.
Contractor, F. J. and P. Lorange. 1988. "Why Should Firms Cooperate? The Strategy and Economics Basis for Cooperative Ventures". Eds. *Cooperative Strategies in International Business*. Lexington, MA: Lexington Books 1: 3-30.
Cox, J., L. Mann and D. Samson. 1997. "Benchmarking as A Mixed Metaphor: Disentangling assumptions of Competition and Collaboration". *Journal of Management Studies* 34(2): 285-314.
Cozzolino, A. and F. T. Rothaermel. 2018. "Discontinuities, Competition, and Cooperation: Coopetitive Dynamics between Incumbents and Entrants". *Strategic Management Journal*. 39(12): 3053-3085.
Crick, J. M. and D. Crick. 2021. "The Dark-Side of Coopetition: Influences on The Paradoxical Forces of Cooperativeness and Competitiveness Across Product-Market Strategies". *Journal of Business Research*, *122*, 226-240.
Crick, J. M. and D. Crick. 2020. "The Yin and Yang Nature of Coopetition Activities: Non-linear Effects and the Moderating Role of Competitive Intensity for Internationalised Firms". *International Marketing Review*. (forthcoming).
Cyert, R. M. and J. G. March. 1963. *A Behavioral Theory of the Firm*. Englewood Cliffs, *NJ*, *2*(4), 169-187.
Czakon, W., P. Klimas and M. M. Mariani. 2020. "Behavioral antecedents of coopetition: A Synthesis and Measurement Scale". *Long Range Planning* 53(1): 101875.
Padula, G. and G. B. Dagnino. 2007. "Untangling The Rise of Coopetition: The Intrusion of Competition in a Cooperative Game structure". *International Studies of Management & Organization* 37(2): 32-52.
Dagnino, G. B. 2009. "Coopetition Strategy: A New Kind of interfirm Dynamics for Value Creation". In Dagnino, G. B. and Rocco, E. (Eds.), *Coopetition Strategy. Theory, Experiments and Case*, London, UK: Routledge, pp. 25-44
Dagnino, G. B. & Minà, A. 2018. "The Swinging Pendulum of Coopetition Inquiry". In Fernandez, A. S., Chiambaretto, P., Le Roy, F., and Czakon, W. (Eds.). (2018). *Routledge Companion to Coopetition Strategies*. New York, NY: Routledge, pp. 68-80.
Dagnino, G. B., & Minà, A. 2021. "Unraveling the Philosophical Foundations of Co-opetition Strategy". *Management and Organization Review*, 1-34.
Dagnino, G. B. and E. Rocco. 2009. *Coopetition Strategy. Theory, Experiments and Cases*. London, UK: Routledge.
Das, T. K. and B. S. Teng. 2000. "Instabilities of Strategic Alliances: An Internal Tensions Perspective". *Organization Science*, 11(1): 77-101.
Derfus, P. J., P. G. Maggitti, C. M. Grimm and K. G. Smith. 2008. "The Red Queen Effect: Competitive Actions and Firm Performance". *Academy of Management Journal* 51(1): 61-80.
Dess, G. G., and D. W. Beard. 1984. "Dimensions of Organizational Task Environments". *Administrative Science Quarterly* 29: 52-73.
Devarakonda, S. V. and J. J. Reuer. 2018. Knowledge sharing and safeguarding in R&D collaborations: The role of steering committees in biotechnology alliances. *Strategic Management Journal 39*(7): 1912-1934.
Devece, C., D. E. Ribeiro-Soriano and D. Palacios-Marqués. 2019. "Coopetition As The New Trend in Inter-Firm Alliances: Literature Review and Research Patterns". *Review of Managerial Science* 13(2): 207-226.

Diestre, L. and N. Rajagopalan. 2014. “Response to Mason and Drakeman's Commentary on “Fishing For Sharks: Partner selection in biopharmaceutical R&D alliances”. *Strategic Management Journal* 35(10): 1566-1568.
Dorn, S., B. Schweiger and S. Albers. 2016. “Levels, Phases and Themes of Coopetition: A Systematic Literature Review and Research Agenda”. *European Management Journal* 34(5): 484-500.
Dowling, M. J., W. D. Roering, B. A. Carlin and J. Wisnieski. 1996. “Multifaceted Relationships under Coopetition: Description and Theory”. *Journal of Management Inquiry* 5(2): 155-167.
Drazin, R. and A. H. Van de Ven. 1985. “Alternative Forms of Fit in Contingency Theory”. *Administrative Science Quarterly*. 30(4): 514-539.
Dyer, J. H. and H. Singh. 1998. “The Relational View: Cooperative Strategy and Sources of interorganizational Competitive Advantage”. *Academy of Management Review* 23(4): 660-679.
Dyer, J. H., H. Singh and W. S. Hesterly. 2018. “The Relational View Revisited: A Dynamic Perspective on Value Creation and Value Capture”. *Strategic Management Journal* 39(12): 3140-3162.
Eisenhardt, K. M. 2000. “Paradox, Spirals, Ambivalence: The New Language of Change and Pluralism”. *Academy of Management Review* 25(4): 703-705.
Eisenhardt, K. M. and J. A. Martin. 2000. “Dynamic Capabilities: What are They?”. *Strategic Management Journal* 21(10-11): 1105-1121.
Estrada, I. and J. Q. Dong. 2020. “Learning from experience? Technological investments and the impact of coopetition experience on firm profitability”. *Long Range Planning* 53(1): 101866.
Fabian, F. H. 2000. “Keeping the tension: Pressures to Keep the Controversy In the Management Discipline”. *Academy of Management Review* 25(2): 350-371.
Fang, T. 2012. “Yin Yang: A New Perspective on Culture”. *Management and Organization Review* 8(1): 25-50.
Farjoun, M. 2010. “Beyond Dualism: Stability and Change as a Duality”. *Academy of Management Review* 35(2): 202-225.
Felin, T., N. J. Foss and R. E. Ployhart. 2015. “The Microfoundations Movement in Strategy and Organization Theory”. *Academy of Management Annals* 9(1): 575-632.
Fernandez, A-S. and P. Chiambaretto. 2016. “Managing Tensions Related to Information in Coopetition”. *Industrial Marketing Management* 53: 66-76.
Fernandez, A-S., P. Chiambaretto, F. Le Roy and W. Czakon. 2018. *Routledge Companion to Coopetition Strategies*. New York NY: Routledge.
Ferrier, W. J. 2001. “Navigating the Competitive Landscape: The Drivers and Consequences of Competitive Aggressiveness”. *Academy of Management Journal* 44(4): 858-877.
Ferrier, W. J., K. G. Smith and C. M. Grimm. 1999. “The role of Competitive Action in Market Share Erosion and Industry Dethronement: A Study of Industry Leaders and Challengers”. *Academy of Management Journal* 42(4): 372-388.
Ford, J. D. and L. W. Ford. 1994. “Logics of Identity, Contradiction, and Attraction in Change”. *Academy of Management Review* 19(4): 756-785.
Ford, J. D. and R. W. Backoff. 1988. *Organizational Change In and Out of Dualities and Paradox*. Ballinger Publishing Co/Harper and Row Publishers.
Galkina, T. and E. L. Lundgren-Henriksson. 2017. “Coopetition as an Entrepreneurial Process: Interplay of Causation and Effectuation”. *Industrial Marketing Management* 67: 158-173.
Galloway, T. L., K. M. Kuhn and M. Collins-Williams. 2019. “Competitors as advisors: Peer Assistance among Small Business Entrepreneurs”. *Long Range Planning* 101929.
Garcia, R., F. Bardhi and C. Friedrich. 2007. “Overcoming Consumer Resistance to Innovation”. *MIT Sloan Management Review* 48(4): 81-89.
Garrette, B., X. Castañer and P. Dussauge. 2009. “Research Notes and Commentaries Horizontal Alliances as an Alternative to Autonomous Production: Product Expansion Mode Choice in the Worldwide Aircraft Industry 1945-2000”. *Strategic Management Journal* 30(8): 885-894.
Garud, R. 1994. “Cooperative and Competitive Behaviors During the Process of Creative Destruction”. *Research Policy* 23(4): 385-394.
Gast, J., K. Gundolf, R. Harms and E. M. Collado. 2019. “Knowledge Management and Coopetition: How Do Cooperating Competitors Balance the Needs to Share and Protect their Knowledge?” *Industrial Marketing Management* 77: 65-74.
Gavetti, G. and J. W. Rivkin. 2007. “On the Origin of Strategy: Action and Cognition over time. *Organization Science* 18(3): 420-439.
Ghemawat, P. and J. E. I. Ricart Costa. 1993. “The Organizational Tension between Static and Dynamic Efficiency”. *Strategic Management Journal* 14(S2): 59-73.
Gimeno, J. 2004. “Competition within and between Networks: The Contingent Effect of Competitive Embeddedness on Alliance Formation”. *Academy of Management Journal* 47(6): 820-842.
Gimeno, J. and C. Y. Woo. 1996. “Hypercompetition in a Multimarket Environment: The Role of Strategic

Similarity and Multimarket Contact in Competitive De-escalation". *Organization Science* 7(3): 322-341.
Gimeno, J. and E. Jeong. 2001. *A structural balance theory of alliance formation: competition and cooperation in the global airline industry*. INSEAD Working Paper #2001/24/SM.
Gnyawali, D. R. and B. J. R. Park. 2011. "Co-opetition Between Giants: Collaboration with Competitors for Technological Innovation". *Research Policy* 40(5): 650-663.
Gnyawali, D. R. and R. Madhavan. 2001. "Cooperative Networks and Competitive Dynamics: A Structural Embeddedness Perspective". *Academy of Management Review* 26(3): 431-445.
Gnyawali, D. R. and T. R. Charleton. 2018. "Nuances in the Interplay of Competition and Cooperation: Towards A Theory of Coopetition", *Journal of Management* 44(7): 2511-2534.
Gnyawali, D. R. and Y. Song. 2016. "Pursuit of Rigor in Research: Illustration from Coopetition Literature". *Industrial Marketing Management* 57: 12-22.
Gnyawali, D. R., J. He and R. Madhavan. 2008. Co-opetition: Promises and Challenges. In Wankel, C. (Ed.). *21st Century Management: A Reference Handbook*, (Pp. 386-398). Thousand Oaks, CA: Sage.
Gnyawali, D. R., R. Madhavan, J. He and M. Bengtsson. 2016. "The Competition–Cooperation Paradox in Inter-Firm Relationships: A Conceptual Framework". *Industrial Marketing Management* 53: 7-18.
Gomes-Casseres, B. 1996. *The Alliance Revolution: The New Shape of Business Rivalry*. Cambridge, MA: Harvard University Press.
Grant, R. M. 1988. "On 'Dominant Logic', Relatedness and the Link between Diversity and Performance". *Strategic Management Journal* 9(6): 639-642.
Gresov, C., and R. Drazin. 1997. "Equifinality: Functional Equivalence in Organization Design". *Academy of Management Review* 22(2): 403-428.
Grimm, C. M., H. Lee and K. G. Smith. 2006. *Strategy as action: Competitive dynamics and competitive advantage*. Oxford NY: Oxford University Press.
Gupta, A. K., K. G. Smith and C. E. Shalley. 2006. "The Interplay between Exploration and Exploitation". *Academy of Management Journal* 49(4): 693-706.
Hambrick, D. C. and P. A. Mason. 1984. "Upper echelons: The organization as a Reflection of its Top Managers. *Academy of Management Review* 9(2): 193-206.
Hamel, G. 1991. "Competition for Competence and Interpartner Learning Within International Strategic Alliances". *Strategic Management Journal* S(12): 83-103.
Hamel, G., Y. Doz and C. Prahalad. 1989. "Collaborate with Your Competitors". *Harvard Business Review* 67(1): 133-139.
Harrigan, K. R. 1988. Joint Ventures and Competitive Strategy. *Strategic Management Journal* 9(2): 141-158.
Helfat, C. E. S. G. Winter. 2011. "Untangling Dynamic and Operational Capabilities: Strategy for the (n) Ever-Changing World". *Strategic Management Journal* 32(11): 1243-1250.
Helfat, C. E., and M. A. Peteraf. 2009. "Understanding Dynamic Capabilities: Progress along a Developmental Path. *Strategic Organization* 7(1): 91–102
Ho, H. and S. Ganesan. 2013. "Does Knowledge Base Compatibility Help or Hurt Knowledge Sharing Between Suppliers in Coopetition? the Role of Customer Participation". *Journal of Marketing* 77(6): 91-107.
Hoffmann, W., D. Lavie, J. J. Reuer, and A. Shipilov. 2018. "The Interplay of Competition and Cooperation". *Strategic Management Journal* 39(12): 3033-3052.
Horn, R. 1983. Trialectics: *Toward a practical logic of unity*. Lexington, MA: Information Resources.
Hutzschenreuter, T. and I. Kleindienst. 2006. "Strategy-Process Research: What Have We Learned and What is Still To Be Explored". *Journal of Management* 32(5): 673-720.
Ingram, P. and Y.L. Qingyuan. 2008. "Structure, Affect and Identity as Bases of Organizational Competition and Cooperation". *Academy of Management Annals* 2(1): 275-303.
Kale, P., H. Singh, and H. Perlmutter. 2000. "Learning and Protection of Proprietary Assets in Strategic Alliances: Building Relational Capital". *Strategic Management Journal* 21(3): 217-237.
Kang, J. and A. Afuah. 2010. "Profiting from Innovations: The Role of New Game Strategies in the Case of Lipitor of the US Pharmaceutical Industry". *R&D Management* 40(2): 124-137.
Kaplan, A. 1964. *The Conduct of Inquiry*. San Francisco: Chandler.
Katila R, Rosenberg JD, Eisenhardt KM. 2008. Swimming with sharks: technology ventures and corporate relationships. *Administrative Science Quarterly* 53(2): 295 – 332.
Keller, J. and E. Sadler-Smith. 2019. "Paradoxes and Dual Processes: A Review and Synthesis". *International Journal of Management Reviews* 21(2): 162-184.
Keller, J. and J. Loewenstein. 2011. "The Cultural Category of Cooperation: A Cultural Consensus Model Analysis for China and the United States". *Organization Science* 22(2): 299-319.
Khanna, T., R. Gulati, and N. Nohria. 1998. "The Dynamics of Learning Alliances: Competition, Cooperation, and Relative Scope". *Strategic Management Journal* 19(3): 193-210.
Kilduff, G. J., H. A. Elfenbein and B. M. Staw. 2010. "The Psychology of Rivalry: A Relationally Dependent Analysis of Competition". *Academy of Management Journal* 53(5): 943-969.

Klein, K., T. Semrau S. Albers, and E. J. Zajac. 2020. "Multimarket coopetition: How the Interplay of Competition and Cooperation affects Entry into Shared Markets". *Long Range Planning* 53(1): 101868.

Klein, L. L., Bortolaso, I. V., & Minà, A. 2020. The impact of social features underlying inter-organizational networks on learning: insights from Brazilian evidence. *Journal of Business & Industrial Marketing*.

Knight, F. H. 1921. *Risk, Uncertainty and Profit*. Houghton Mifflin.

Knudsen, M. P. 2007. "The Relative Importance of Interfirm Relationships and Knowledge Transfer for New Product Development Success". *Journal of Product Innovation Management* 24(2): 117–138.

Kor, Y. Y. and A. Mesko. 2013. Dynamic Managerial Capabilities: Configuration and Orchestration of Top Executives' Capabilities and the Firm's Dominant Logic". *Strategic Management Journal* 34(2): 233-244.

Kraus, S., F. Meier, T. Niemand, R. B. Bouncken and P. Ritala. 2018". In Search for the Ideal Coopetition Partner: An Experimental Study". *Review of Managerial Science* 12(4): 1025-1053.

Krishnan, R., X. Martin and , N. G. Noorderhaven. 2006. When Does Trust Matter to Alliance Performance?. *Academy of Management Journal* 49(5): 894-917.

Kuhn, T. S. 1970. *Criticism and the growth of knowledge: Volume 4: Proceedings of the International Colloquium in the Philosophy of Science.* London: Cambridge University Press.

Lado, A. A., N. G. Boyd and S. C. Hanlon. 1997. "Competition, Cooperation, and the Search for Economic Rents: A Syncretic Model". *Academy of Management Review* 22(1): 110-141.

Lane, P. J. and M. Lubatkin. 1998. "Relative Absorptive Capacity and Interorganizational Learning". *Strategic Management Journal* 19(5): 461-477.

Lascaux, A. 2019. "Coopetition and Trust: What We Know, Where to Go Next". *Industrial Marketing Management* 84: 2-18.

Lavie, D. 2006. "The Competitive Advantage of Interconnected Firms: An Extension of the Resource-Based View". *Academy of Management Review* 31(3): 638-658.

Lawrence, P. R., J. W. Lorsch. 1967. *Organization and Environment*. Boston, MA: Harvard Business School.

Lechner, C. and C. Leyronas. 2009. "Small Business Group formation as An Entrepreneurial Development Model". *Entrepreneurship Theory and Practice* 33(3): 645-667.

Lee, L. S. and W. Zhong. 2020. "Opportunism, Identification Asymmetry, and Firm Performance in Chinese Interorganizational Relationships". *Management and Organization Review*, 16(4) 825-865.

Lee, Y., E. Fong, J. B. Barney and A. Hawk. 2019. "Why Do Experts Solve Complex Problems Using Open Innovation? Evidence from the US Pharmaceutical Industry". *California Management Review* 62(1): 144-166.

Leiblein, M. J. and J.J Reuer. 2020. "Foundations and Futures of Strategic Management". *Available at SSRN 3396754*.

Levinthal, D. A. and J. G. March. 1993. "The Myopia of Learning". *Strategic Management Journal* 14(S2): 95-112.

Lewis, M. W. 2000. "Exploring Paradox: Toward a More Comprehensive Guide". *Academy of Management Review* 25(4): 760-776.

Lewis, M. W., Welsh, M. A., Dehler, G. E. and S. G. Green. 2002. Product development tensions: Exploring Contrasting Styles of Project Management. *Academy of Management Journal* 45(3): 546-564.

Liao, T. J. and C. M. J. Yu. 2013. "The Impact of Local Linkages, International Linkages, and Absorptive Capacity on Innovation for Foreign Firms Operating in an Emerging Economy". *Journal of Technology Transfer* 38(6): 809-827.

Lioukas, C. S. and J. J. Reuer . 2020. Choosing between safeguards: Scope and governance decisions in R&D alliances. *Journal of Management 46*(3): 359-384.

Lin, C. Y. Y. and J. Zhang. 2005. "Changing Structures of SME Networks: Lessons from the Publishing Industry in Taiwan". *Long Range Planning* 38(2): 145-162.

Luo, X., A. Rindfleisch and D. K. Tse. 2007. "Working with Rivals: The Impact of Competitor Alliances on Financial Performance". *Journal of Marketing Research* 44(1): 73-83.

Luo, Y. 2007a. "From Foreign Investors to Strategic Insiders: Shifting Parameters, Prescriptions and Paradigms for MNCs in China". *Journal of World Business*. 42(1): 14-34.

Luo, Y. 2007b. "A Coopetition Perspective of Global Competition". *Journal of World Business*, 42(2): 129-144.

Luo, Y. and H. Rui. 2009. "An Ambidexterity Perspective Toward Multinational Enterprises from Emerging Economies". *Academy of Management Perspectives* 23(4): 49-70.

Luo, Y., O. Shenkar and H. Gurnani. 2008. "Control–Cooperation interfaces in Global Strategic Alliances: A Situational Typology and Strategic Responses". *Journal of International Business Studies* 39(3): 428-453.

MacMillan, I. C., M. L. McCaffery and G. Van Wijk. 1985. "Competitors' Responses to Easily Imitated New Products—Exploring Commercial Banking Product Introductions". *Strategic Management Journal* 6(1): 75-86.

Mahoney, J. T. and A. M. McGahan. 2007. “The Field of Strategic Management Within The Evolving Science of Strategic Organization”. *Strategic Organization* 5(1): 79-99.

Makarevich, A. 2018. “Performance Feedback as a Cooperation “Switch”: A Behavioral Perspective on the Success of Venture Capital Syndicates among Competitors”. *Strategic Management Journal* 39(12): 3247-3272.

March, J. G. 1991. “Exploration and Exploitation in Organizational Learning”. *Organization Science* 2(1): 71-87.

Margolis, J. D. and J. P. Walsh. 2003. Misery loves companies: Rethinking social initiatives by business. *Administrative Science Quarterly* 48(2): 268-305.

Mariani, M. M. 2007. “Coopetition as an Emergent Strategy: Empirical Evidence from an Italian Consortium of Opera Houses”. *International Studies of Management and Organization* 37(2): 97-126.

Marquis, C. and J. Battilana. 2009. “Acting Globally but Thinking Locally? the Enduring influence of Local Communities on Organizations”. *Research in Organizational Behavior* 29: 283-302.

Mason, R. and D. L. Drakeman. 2014. “Comment on “fishing for sharks: Partner selection in biopharmaceutical R&D alliances” by Diestre and Rajagopalan”. *Strategic Management Journal* 35(10): 1564-1565.

Mathias, B. D., A. Huyghe, C. J. Frid and T. L. Galloway. 2018. “An Identity Perspective on Coopetition in the Craft Beer Industry”. *Strategic Management Journal* 39(12): 3086-3115.

McGrath, R. G., I. C. MacMillan and M. L. Tushman. 1992. “The Role of Executive Team Actions In Shaping Dominant Designs: Towards The Strategic Shaping of Technological Progress”. *Strategic Management Journal* 13(S2): 137-161.

Milliken, F. J. 1987. “Three Types of Perceived Uncertainty about the Environment: State, Effect, and Response Uncertainty”. *Academy of Management Review* 12(1): 133-143.

Minà, A. and G. B. Dagnino. 2016. “In Search Of Coopetition Consensus: Shaping The Collective Identity of a Relevant Strategic Management Community”. *International Journal of Technology Management* 71(1-2): 123-154.

Minà, A., G. B. Dagnino and S. Ben Letaifa. 2015. “Competition and Cooperation In Entrepreneurial Ecosystems: A Lifecycle Analysis of a Canadian ICT Ecosystem”. In *Innovation, Alliances, and Networks in High-Tech Environments* Routledge: London.

Minà, A., G. B. Dagnino and G. Vagnani. 2020. “An Interpretive Framework of the Interplay of Competition and Cooperation”. *Journal of Management and Governance* 24(1): 1-35.

Minà, A., G. B. Dagnino. 2022. Foundations of Coopetition Strategy: A Framework for Competition and Cooperation, Routledge-Giappichelli book series.

Mintzberg, H. and J. A. Waters. 1985. “Of Strategies, Deliberate and Emergent”. *Strategic Management Journal* 6(3): 257-272.

Miron-Spektor, E., A. Ingram, J. Keller, W. K. Smith, and M. W. Lewis. 2018. “Microfoundations of Organizational Paradox: The Problem is How We Think about the Problem”. *Academy of Management Journal* 61(1): 26-45.

Murnighan, J. K. and D. E. Conlon. 1991. The dynamics of intense work groups: A study of British string quartets. *Administrative Science Quarterly* 36(2): 165-186.

Nadkarni, S., and P. S. Barr. 2008. “Environmental Context, Managerial Cognition, and Strategic Action: An Integrated View”. *Strategic Management Journal* 29(13): 1395-1427.

Nelson, R. R. and S. G. Winter. 1982. “The Schumpeterian Tradeoff Revisited”. *American Economic Review* 72(1): 114-132.

Niesten, E., and I. Stefan. 2019. “Embracing the Paradox of Interorganizational Value Co-creation–Value Capture: A Literature Review towards Paradox Resolution”. *International Journal of Management Reviews* 21(2): 231-255.

Nooteboom, B. 1996. “Trust, Opportunism and Governance: A Process and Control Model”. *Organization Studies*, 17(6): 985-1010.

Ocasio, W. 1997. “Towards an Attention-Based View of the Firm”. *Strategic Management Journal* 18(S1): 187-206.

Padula, G. and G. B. Dagnino. 2007. “Untangling the Rise of Coopetition: The intrusion of Competition in A Cooperative Game Structure”. *International Studies of Management and Organization* 37(2): 32-52.

Park, B. J. R., M. K. Srivastava, and D. R. Gnyawali. 2014. “Walking the Tight Rope of Coopetition: Impact of Competition and Cooperation intensities and Balance on Firm Innovation Performance”. *Industrial Marketing Management* 43(2): 210-221.

Parkhe, A. 1993. “Strategic Alliance Structuring: A Game Theoretic and Transaction Cost Examination of Interfirm Cooperation”. *Academy of Management Journal* 36(4): 794-829.

Pattinson, S., J. Nicholson and A. Lindgreen. 2018. “Emergent Coopetition from A Sensemaking Perspective: A Multi-Level Analysis”. *Industrial Marketing Management* 68: 25-35.

Peng, T. J. A., M. H. Yen and M. Bourne. 2018. “How Rival Partners Compete Based on Cooperation?”. *Long*

Range Planning 51(2): 351-383.
Peng, T. J. A., S. Pike, J. C. H. Yang and G. Roos. 2012. “Is Cooperation with Competitors a Good Idea? An Example in Practice”. *British Journal of Management* 23(4): 532-560.
Penrose, E. 1959. *The Theory of the Growth of the Firm*. *New York*: John Wiley & Sons.
Pfeffer, J. and G. R. Salancik. 1978. *The external control of organizations: A resource dependence perspective*. New York: Harper & Row.
Picone, P. M., G. B. Dagnino and A. Minà. 2014. “The Origin of Failure: A Multidisciplinary Appraisal of the Hubris Hypothesis and Proposed Research Agenda”. *Academy of Management Perspectives* 28(4): 447-468.
Pitelis, C. N., P. Desyllas and A. Panagopoulos. 2018. “Profiting from Innovation Through Cross-Border Market Co-Creation and Co-Opetition: The Case of Global Pharmaceuticals”. *European Management Review* 15(4): 491-504.
Poole, M. S. and A. H. Van De Ven. 1989. “Using Paradox to Build Management and Organization Theories”. *Academy of Management Review* 14(4): 562-578.
Porter, M. E. 1980. *Competitive Strategy: Techniques for Analyzing Industries and Competitors*. New York: Free Press.
Prahalad, C. K. and R. A. Bettis. 1986. “The Dominant Logic: A New Linkage Between Diversity and Performance”. *Strategic Management Journal 7*(6): 485-501.
Provan, K. G., J. M., Beyer, C. Kruytbosch. 1980. Environmental linkages and power in resource-dependence relations between organizations. *Administrative Science Quarterly*, 25(2): 200-225.
Quintana-Garcia, C. and C. A. Benavides-Velasco. 2004. “Cooperation, Competition, and Innovative Capability: A Panel Data of European Dedicated Biotechnology Firms”. *Technovation* 24(12): 927-938.
Rai, R. K. 2016. “A Co-opetition-Based Approach to Value Creation in interfirm Alliances: Construction of A Measure and Examination of Its Psychometric Properties”. *Journal of Management* 42(6): 1663-1699.
Ratzmann, M., S. P. Gudergan and R. Bouncken. 2016. “Capturing Heterogeneity and PLS-SEM Prediction Ability: Alliance Governance and Innovation”. *Journal of Business Research,* 69(10): 4593-4603.
Raza-Ullah, T. 2020. “Experiencing the paradox of coopetition: A moderated mediation framework explaining the paradoxical tension–performance relationship”. *Long Range Planning* 53(1): 101863.
Raza-Ullah, T., M. Bengtsson and S. Kock. 2014. “The Coopetition Paradox and Tension in Coopetition at Multiple Levels”. *Industrial Marketing Management* 43(2): 189-198.
Raza-Ullah, T., M. Bengtsson and V. Vanyushyn. 2018. “Coopetition capability: what is it?”. In Fernandez, A-S., P. Chiambaretto, F. Le Roy and W. Czakon. (Eds.). 2018. *Routledge Companion to Coopetition Strategies*. New York, NY: Routledge: 197-204.
Reuer, J. J., M. P. Koza. 2000. “Asymmetric Information and Joint Venture Performance: Theory and Evidence for Domestic and International Joint Ventures”. *Strategic Management Journal* 21(1): 81-88.
Reuer, J. J. and M. P. Koza. 2000. “Asymmetric Information and Joint Venture Performance: Theory and Evidence for Domestic and International Joint Ventures”. *Strategic Management Journal* 21(1): 81-88.
Reuer, J. J. and M. Zollo. 2005. “Termination Outcomes of Research Alliances”. *Research Policy* 34(1): 101-115.
Ritala, P. 2012. “Coopetition Strategy–When Is It Successful? Empirical Evidence on Innovation and Market Performance”. *British Journal of Management* 23(3): 307-324.
Ritala, P. and P. Hurmelinna-Laukkanen. 2009. “What’s in it for Me? Creating and Appropriating Value in Innovation-Related Coopetition”. *Technovation* 29(12): 819-828.
Ritala, P. and P. Hurmelinna-Laukkanen. 2013. “Incremental and Radical Innovation in Coopetition—The Role of Absorptive Capacity and Appropriability”. *Journal of Product Innovation Management* 30(1): 154-169.
Ritala, P., S. Kraus and R. B. Bouncken. 2016. “Introduction to Coopetition and Innovation: Contemporary Topics and Future Research Opportunities”. *International Journal of Technology Management* 71(1-2): 1-9.
Rosenbloom, R. S. 2000. “Leadership, Capabilities, And Technological Change: The Transformation of NCR in The Electronic Era”. *Strategic Management Journal* 21(10-11): 1083-1103.
Rumelt, R. P., D. E. Schendel and D. J. Teece. 1994. Fundamental issues in strategy: A research agenda: Harvard Business School Press. *Boston, MA*.
Ryu, W., T. Brush and J. J. Reuer. 2015. “How multimarket competition fosters collaboration: mutual forbearance and Market Power effects”. *Academy of Management Proceedings* 1:12554.
Ryu, W., McCann, B. T., & Reuer, J. J. 2018. Geographic co-location of partners and rivals: Implications for the design of R&D alliances. *Academy of Management Journal 61*(3): 945-965.
Ryu, W., Reuer, J. J., & Brush, T. H. 2020. The effects of multimarket contact on partner selection for technology cooperation. *Strategic Management Journal 41*(2): 267-289.
Salvato, C. and R. Vassolo. 2018. “The Sources of Dynamism in Dynamic Capabilities”. *Strategic Management*

Journal 39(6): 1728-1752.
Scandelius, C. and G. Cohen. 2016. Sustainability program brands: Platforms for collaboration and co-creation. *Industrial Marketing Management*, 57, 166-176.
Schilke, O. 2014. "Second-order dynamic capabilities: How do they matter?". *Academy of Management Perspectives* 28(4): 368-380.
Schreyögg, G. and M. Kliesch-Eberl. 2007. "How Dynamic Can Organizational Capabilities Be? Towards A Dual-Process Model of Capability Dynamization". *Strategic Management Journal* 28(9): 913-933.
Seepana, C., A. Paulraj and F. A. Huq. 2020. "The Architecture of Coopetition: Strategic Intent, Ambidextrous Managers, and Knowledge Sharing". *Industrial Marketing Management* 91: 100-113.
Shah, R. H. and V. Swaminathan. 2008. "Factors Influencing Partner Selection in Strategic Alliances: The Moderating Role of Alliance Context". *Strategic Management Journal* 29(5): 471-494.
Silverman, B. S. and J. A. Baum 2002. "Alliance-based Competitive Dynamics". *Academy of Management Journal*, 45(4): 791-806.
Smith, K. G., W. J. Ferrier and H. Ndofor. 2001. "Competitive dynamics research: Critique and future directions. In Hitt M., R. E. Freeman and J. Harrison (eds.). *Handbook of Strategic Management*. London: Blackwell Publishers 361.
Smith, W. K and M. L. Tushman. 2005. "Managing strategic contradictions: A Top Management Model for Managing Innovation Streams. *Organization Science* 16(5): 522-536.
Smith, W. K. and M. W. Lewis. 2011. Toward a Theory of Paradox: A Dynamic Equilibrium Model of Organizing. *Academy of Management Review* 36(2): 381-403.
Srivastava, M. K. and D. R. Gnyawali. 2011. "When do Relational Resources Matter? Leveraging Portfolio Technological Resources for Breakthrough Innovation". *Academy of Management Journal* 54(4): 797-810.
Stadtler, L. and L. N. Van Wassenhove. 2016. "Coopetition as A Paradox: Integrative Approaches in A Multi-Company, Cross-Sector Partnership". *Organization Studies* 37(5): 655-685.
Sundaramurthy, C. and M. Lewis, M. 2003. Control and collaboration: Paradoxes of governance. *Academy of Management Review* 28(3): 397-415.
Sutton, R. I. and B. M. Staw. 1995. "What theory is not". *Administrative Science Quarterly* 40(3*):* 371-384.
Teece, D. J. 1992. "Competition, Cooperation, and Innovation: Organizational Arrangements for Regimes of Rapid Technological Progress". *Journal of Economic Behavior & Organization* 18(1): 1-25.
Teece, D. J. 2020. Fundamental Issues in Strategy: Time to Reassess?". *Strategic Management Review* 1(1): 103-144.
Teece, D. J., G. Pisano and A. Shuen. 1997. "Dynamic capabilities. Capabilities and Strategic Management". *Strategic Management Journal* 18(7): 509-533.
Tidström, A. 2014. "Managing Tensions in Coopetition". *Industrial Marketing Management* 43(2): 261-271.
Tidström, A. and A. Rajala. 2016. "Coopetition Strategy as Interrelated Praxis and Practices on Multiple Levels". *Industrial Marketing Management* 58: 35-44.
Tosi, H., R. Aldag and R. Storey. 1973. "On the Measurement of the Environment: An Assessment of the Lawrence and Lorsch Environmental Uncertainty Subscale". *Administrative Science Quarterly* 18(1): 27-36.
Tripsas, M., and G. Gavetti. 2000. "Capabilities, cognition, and inertia: Evidence from digital imaging". *Strategic Management Journal* 21(10-11): 1147-1161.
Tsai, W., K. H. Su and M. J. Chen. 2011. "Seeing through the Eyes of a Rival: Competitor Acumen Based on Rival-Centric Perceptions". *Academy of Management Journal* 54(4): 761-778.
Tushman, M. L. and P. Anderson. 1986. Technological Discontinuities and Organizational Environments. *Administrative Science Quarterly* 31(3): 439-465.
Van De Ven, A. H. and M. S. Poole. 1995. "Explaining Development and Change in Organizations". *Academy of Management Review* 20(3): 510-540.
Vassolo, R. S. and J. Anand. 2008. "An examination of dynamic capabilities: is evolutionary theory underdetermined?". *Management Research* 6(1): 47.
Vasudeva, G., A. Leiponen and S. Jones. 2020. "Dear Enemy: The Dynamics of Conflict and Cooperation in Open Innovation Ecosystems". *Strategic Management Review* 1(2): 355-379.
Volschenk, J., M. Ungerer and E. Smit. 2016. "Creation and Appropriation of Socio-Environmental Value in Coopetition". *Industrial Marketing Management* 57: 109-118.
Wang, X., W. Dolfsma and H. Van Der Bij. 2019. "Individual Performance in a Coopetitive R&D Alliance: Motivation, Opportunity and Ability". *R&D Management* 49(5): 762-774.
Webb, E. and K. E. Weick. 1979. "Unobtrusive Measures in Organizational Theory: A Reminder". *Administrative Science Quarterly* 24(4): 650-659.
Wernerfelt, B. 1984. "A Resource-Based View of the Firm". *Strategic Management Journal* 5(2): 171-180.
Williamson, O. E. 1993. "Opportunism and its Critics". *Managerial and Decision Economics* 14(2): 97-107.

Winter, S. G. 2003. “Understanding Dynamic Capabilities”. *Strategic Management Journal* 24(10): 991-995.
Woodward, J. 1965. Industrial Organization: Theory and Practice. London: Oxford University Press.
Wu, J. 2014. “Cooperation with Competitors and Product Innovation: Moderating Effects of Technological Capability and Alliances with Universities”. *Industrial Marketing Management* 43(2): 199-209.
Yami, S., S. Castaldo, G. B. Dagnino and F. Le Roy. 2010. *Coopetition: Winning Strategies for the 21st Century*. London, UK: Edward Elgar Publishing.
Yan, Y., J. Q. Dong and D. Faems. 2020. “Not Every Coopetitor is The Same: The Impact of Technological, Market and Geographical Overlap with Coopetitors on Firms’ Breakthrough Inventions”. *Long Range Planning* 53(1): 101873.
Zahra, S. A. and G. George. 2002. “Absorptive Capacity: A Review, Reconceptualization, and Extension”. *Academy of Management Review* 27(2): 185-203.
Zahra, S. A., H. J. Sapienza and P. Davidsson. 2006. “Entrepreneurship and Dynamic Capabilities: A Review, Model and Research Agenda”. *Journal of Management Studies* 43(4): 917-955.
Zerbini, F. and S. Castaldo. 2007. “Stay in Or Get Out the Janus? The Maintenance of Multiplex Relationships Between Buyers and Sellers”. *Industrial Marketing Management* 36(7): 941-954.
Zhu, F. and Q. Liu. 2018. “Competing with Complementors: An Empirical Look at Amazon.com”. *Strategic Management Journal* 39(10), 2618-2642.
Zimmermann, A., S. Raisch and L. B. Cardinal. 2018. Managing Persistent Tensions on the Frontline: A Configurational Perspective on Ambidexterity. *Journal of Management Studies* 55(5): 739-769.
Zollo, M. and S. G. Winter. 2002. “Deliberate Learning and the Evolution of Dynamic Capabilities”. *Organization Science* 13(3): 339-351.
Zollo, M., E. L. Bettinazzi, K. Neumann and P. Snoeren. 2016. “Toward A Comprehensive Model of Organizational Evolution: Dynamic Capabilities for Innovation and Adaptation of the Enterprise Model”. *Global Strategy Journal* 6(3): 225-244.

Figure 1: A comprehensive map of coopetition research

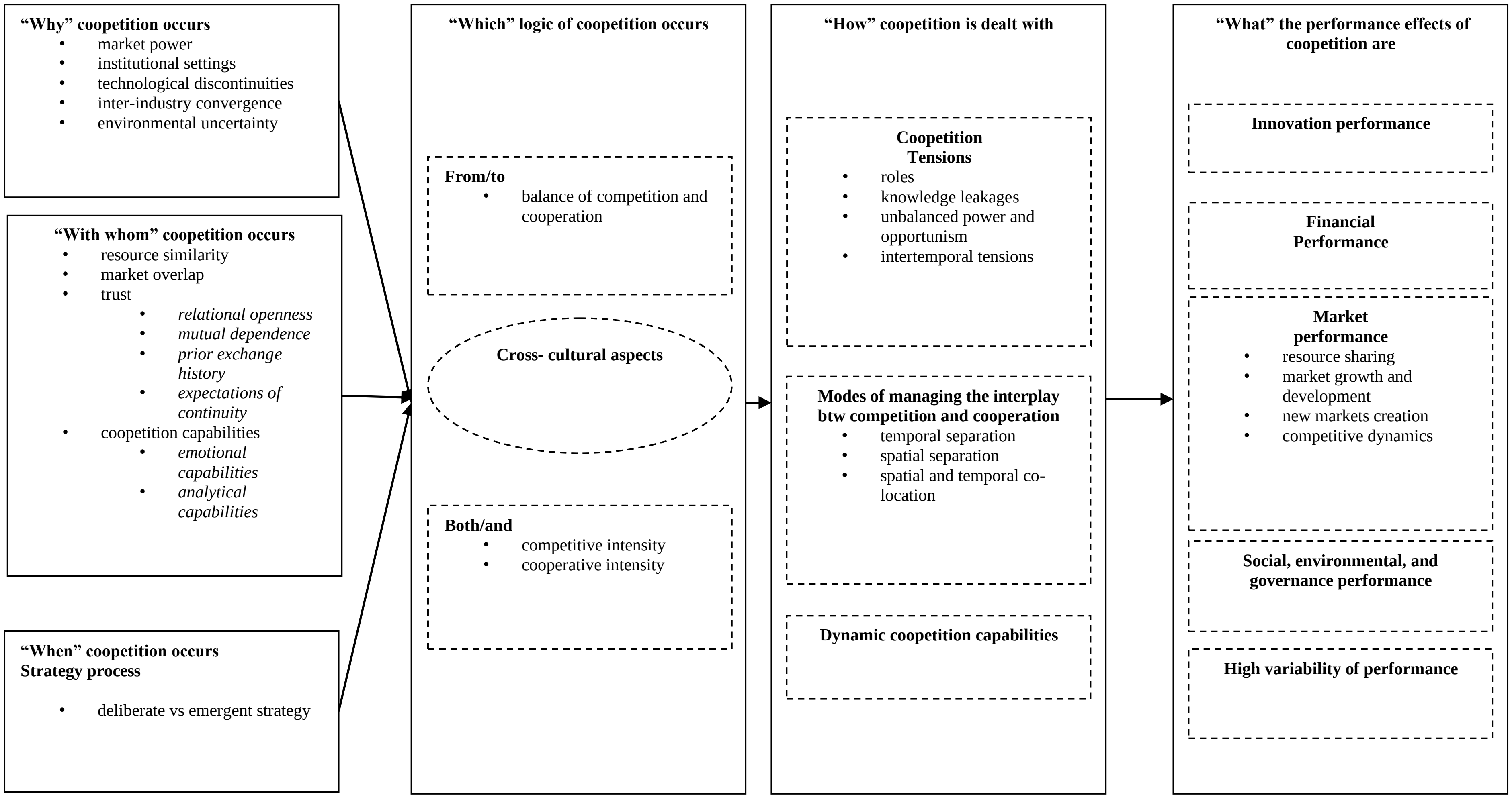

Figure 2: Linking coopetition inquiry with strategic management (SM) research

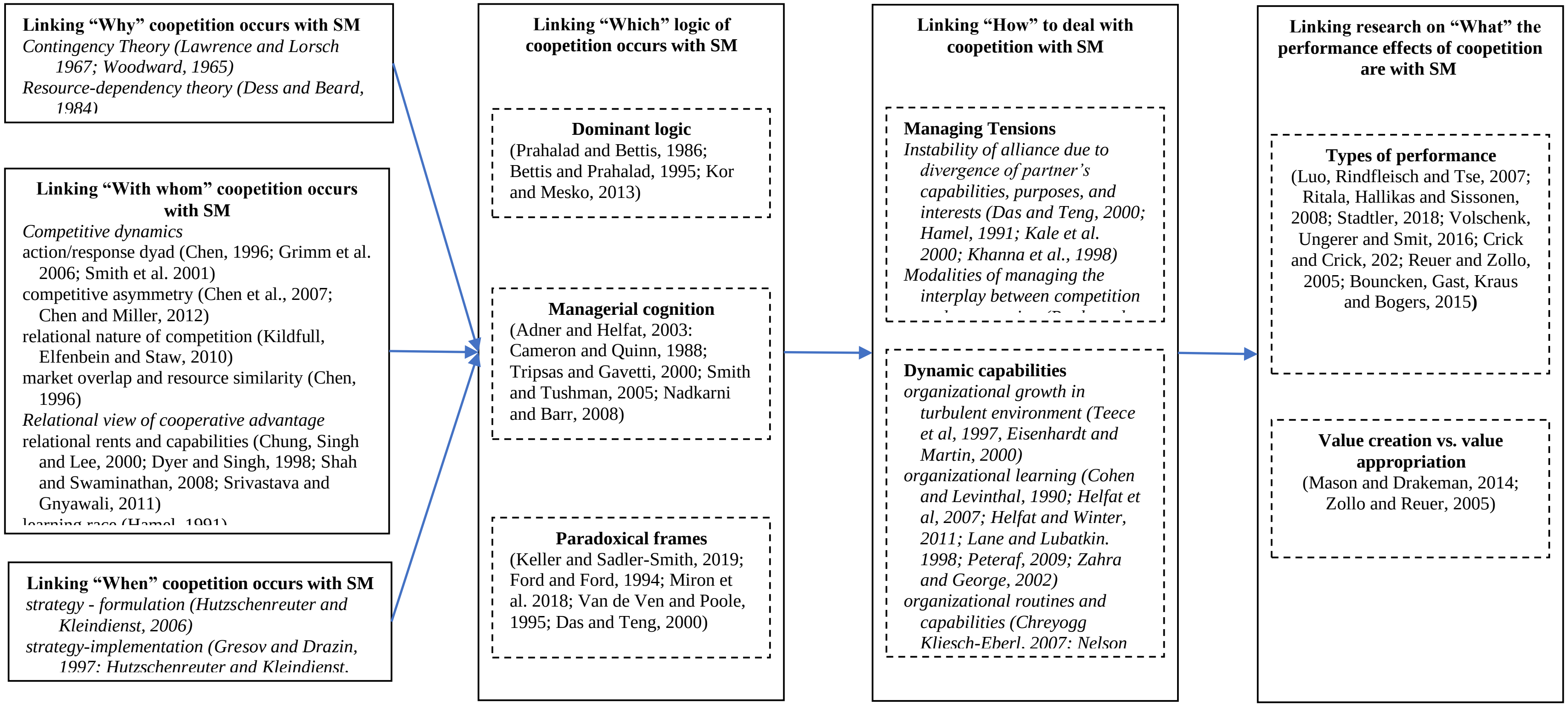

Table 1: A synopsis of the selection of authoritative reviews on coopetition

Reference	**Data base**	**Span of time**	**Book chapters**	**Criteria**	**Limitations**	**Sample**	**Level of analysis**	**Review approach**
Bouncken, Gast, Kraus and Bogers (2015)	ABI Inform/ProQuest, EBSCO host/Business Source Premier, Ingenta Connect, JSTOR, MENDELEY, Science Direct, Scopus, Springer Link, Web of Science, Google Scholar	Until 2014	NO	coopet*', co-opet*	Journal in British Association of Business Schools ranking with the cut-off ≥ 2; Journal in German Academic Association for Business Research ranking with the cut-off ≥ C; Journals with the Thomson Reuters's impact factor cut-off ≥ 0.7	82 articles	Inter-firm	Descriptive analysis of literature, presentation of "coopetition as a strategy", discussion on challenges of the management of coopetition
Dorn, Schweiger and Albers (2016)	ABI/INFORM, EBSCO, SSCI/Web of Science	1992-2014	YES	co(-)opet* "co(-)oper*" and "compet*"	Journals ranked by the Web of Science (2014 JCR Social Science Edition) within the categories of business and management	169 articles	Inter-firm, intra-firm, network level	In-depth review to synthesize coopetition in a way that facilitates additional research and supports business practice
Bengtsson and Raza-Ullah, (2016)	ISI Web of Knowledge's Social Sciences Citation Index and EBSCO	1996-2014	NO	"cooperat* and compet*" or "collaborat* and compet*" or coopet* or co-opet*	Journals with ISI impact factor above 0.5 and with 2 or above publications within the categories of management or business and management	142 articles	Intra-firm, dyadic, triadic, inter-firm, network level	Systematic review that summarizes major themes, drivers, processes, and outcomes (DPO)
Devece, Ribeiro-Soriano and Palacios-Marqués (2019)	Web of Knowledge	1996-2015	NO	'coopet*'' or ''co-opet*'	Articles published in peer-reviewed business and management journals, including "operations research and management science" journals	75 articles	Individual and team, organizational, inter-organizational, network and cluster	Trends and perspectives in coopetition research based on level, objectives, framework, firm size, method

Table 2: A summary of the key emerging links and future research links between coopetition and strategic management research

KEY QUESTIONS	THEORETICAL PERSPECTIVE DOMINANT IN STRATEGIC MANAGEMENT	EMERGING LINKS	FUTURE RESEARCH LINKS
"Why" coopetition occurs	Contingency theory and resources dependency	Environmental drives coopetition	Effect of uncertainties in coopetition Effect of single drivers of coopetition on performance
"With whom" coopetition occurs	Competitive dynamics	Action/response dyad Competitive asymmetry Relational nature of competition Market overlap and resource similarity	Awareness-motivation-capabilities approach Coopetition action-response dyad Multipoint coopetition
	The relational view of cooperative advantage	Relational rents and capabilities Learning race Value misappropriation	Mistakes in partners selections Unfairness in coopetition
"When" coopetition occurs	Strategy formulation	Rationality and comprehensiveness process for coopetition	CEO's decision-making process Strategy formulation
	Strategy implementation	Emergent-deliberate coopetition shift	Strategy implementation
"Which" logic of coopetition occurs	Dominant logic	Dominant logic	Changes of logic
	Dynamic managerial capabilities	Managerial cognition	Managerial human capital Managerial social capital Managerial attention
	Paradoxical frames	Paradox literature	Effects of different paradoxical frames on coopetition dynamics and performance
"How" coopetition is dealt with	Managing tensions	Role of governance on coopetition	Coopetition architecture Coopetition coordination mechanisms
	Dynamic capabilities	Organizational growth in a turbulent environment; organizational learning; organizational routines and capabilities; alliance capability to select partners	Link between learning mechanisms and coopetition dynamic capabilities Contingent role of stable vs. turbulent environments to build coopetition capabilities Dynamic coopetition capabilities and coopetition lifecycle Coopetition red queen effect Development and balancing of coopetitive capabilities
	Modalities of managing the interplay	Paradox literature and organizational structures	Logic of coopetition and specific firm's rents
"What" the implications of coopetition are	Firm performance	Multidimensionality of performance; Value creation vs. value destruction interplay	Co-evolution of different types of performance

Table 3: A synopsis of the directions for future research on coopetition

Theory	Research questions	Position in the map	Research domain
Contingency theory	How do industry characteristics affect the choice to implement a coopetitive strategy and its performance?	"Why" coopetition occurs	Strategic management
	How do drivers of coopetition affect coopetition patterns, and, in turn, innovation performance?	Linking "Why" coopetition occurs and the performance of coopetition	Innovation management
Competitive dynamics	How to distinguish the sequence between cooperative/competitive actions and cooperative/competitive responses? Does specific logic depend on the resource characteristics of competing partners, which, in turn, may follow dissimilar logics? How is it possible to make a crucial transition, not only from one logic to the other?	Linking "With whom" coopetition occurs and which logic of coopetition occurs	Strategic alliance
	Whether and how multimarket competition fosters coopetition?	Linking "With whom" coopetition occurs and which logic of coopetition occurs	International business, diversification strategy
	What is the impact of intentional mistakes or unfair actions on alliance formation and evolution?	"With whom" coopetition occurs	Strategic alliance
Strategy formulation and implementation	What is the impact of a strategy's psychological attitude for the formulation of coopetition?	"When" coopetition occurs	Strategy formulation processes
Dominant Logic and Management Cognition	How do decision makers define their agenda and how is their attention addressed toward coopetition? How do beliefs, values, and actions of decision makers support governance mechanisms that encourage coopetition?	"Which" logic of coopetition occurs	Strategic leadership
Tension	What is the impact of each driver on the ways in which firms organize themselves, and, in turn, the emergence of specific tensions?	"How" to deal with coopetition	Organizational design
Dynamic Capabilities	How does coopetition dynamically evolve over time? How do development of organizational-level coopetition-oriented routines and dynamic coopetition capabilities lay the groundwork for the coopetition lifecycle?	"How" to deal with coopetition	Coopetition
	How do firms enrich adaptive coopetitive capabilities? How do firms develop proactive coopetition capabilities? How can firms balance adaptive and proactive coopetitive capabilities?	"How" to deal with coopetition	Dynamic capabilities; Strategic alliance

Value creation and value appropriation	To what extent and under what conditions is it possible to observe the "coopetition red queen effect"?	"What" the performance effects of coopetition are	Innovation management
	What are the implications of coopetition in the short and long term? How does coopetition contribute to creating a sequence of competitive (coopetitive) advantages?	"What" the performance effects of coopetition are	Competitive advantage
	What is the relationship between the logic of coopetition and the emergence of firms' specific rents?	Linking "Which" logic of coopetition occurs and "What" the performance effects of coopetition are	Competitive advantage
Uncertainty theory	To what extent and under what conditions do firms differ in coping with uncertainty through coopetition?	"Why" coopetition occurs	Strategic alliance
Agency theory	What are the bright and dark sides of opportunism in coopetitive agreements?	"With whom" coopetition occurs	Coopetition
Not Specified	What are the mechanisms linking the key questions underlying coopetition studies, thereby advancing the emergence of specific paths for coopetition evolution?	Not specified	Coopetition