
Editorial Commentary

Nuances in the Interplay of Competition and Cooperation: Towards a Theory of Coopetition

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Progress in coopetition research is impeded by two problems in the literature: (a) superficial conceptualization of simultaneity and outcomes and (b) lack of theorizing about core properties of coopetition and how they influence outcomes. This paper addresses these interrelated problems and charts a path towards a theory of coopetition. We systematically analyze competition and cooperation and illuminate how the interplay between specific aspects of competition and cooperation manifests through unique coopetition mechanisms. We explicate a range of possible outcomes from coopetition—joint value creation for all firms, value creation for individual firms, and value destruction—and suggest that coopetition mechanisms help explain how and why coopetition may lead to varying outcomes. Furthermore, we explain how effective navigation of simultaneity and value creation intent, two fundamental elements of coopetition, may be instrumental in deriving beneficial outcomes. Navigating simultaneity involves balancing competition and cooperation and maintaining both at moderately strong levels, and navigating value creation consists of managing the trade-off between joint value creation and firm value creation without compromising overall value creation. By explaining how coopetition manifests, what its unique underlying properties are, and how such properties influence outcomes, our paper provides a deeper understanding of the phenomenon and progresses the literature towards a theory of coopetition.

Keywords: *coopetition; competition and cooperation; value creation; simultaneity; horizontal alliance*

Acknowledgments: We wish to thank Maria Bengtsson, Sea Matilda Bez, Robert Galavan, Jyoti Gupta, Sören Kock, Tatbeeq Raza-Ullah, and Manish Srivastava for their valuable comments. Earlier versions of the paper were presented at the University of Montpellier, Korea University, a seminar jointly hosted by the Korean Society of Strategic Management and Hanyang University, and the 2017 annual meeting of the Academy of Management. The second author gratefully acknowledges support from the Irish Research Council, the Fulbright Commission of Ireland, Enterprise Ireland, the John F. Kennedy Fund, and Maynooth University.

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The phenomenon of simultaneous competition and cooperation among firms with value creation intent, commonly referred to as *coopetition*, is an important topic in strategic management (Gnyawali, He, & Madhavan, 2006; Ketchen, Snow, & Hoover, 2004; Mathias, Huyghe, Frid, & Galloway, in press; Rai, 2016). Literature suggests that *coopetition* enables firms to pursue advanced technological development (Gnyawali & Park, 2011) and disruptive innovations (Ansari, Garud, & Kumaraswamy, 2016) but is also inherently challenging as a result of conflicting logics (Chen, 2008) and contradictions (Gnyawali, Madhavan, He, & Bengtsson, 2016) arising from the simultaneous pursuit of competition and cooperation.

However, our understanding of this important and complex phenomenon is inhibited by two interrelated problems in the literature. First, the literature offers rather superficial views on both the nature of simultaneity between competition and cooperation and the outcomes derived from it. Despite calls to unpack simultaneity and uncover nuances (Bengtsson & Kock, 2014; Luo, Gnyawali, & Bu, 2016; B. J. Park, Srivastava, & Gnyawali, 2014), researchers have mostly examined basic temporal overlaps and paid little attention to variation in intensity and balance of competition and cooperation, or how such variation may affect outcomes. This problem is compounded by polarized views regarding outcomes of *coopetition*. Some researchers (e.g., Bengtsson & Kock, 2000; Gnyawali & Park, 2011; Mathias et al., in press) enthusiastically argue that the “combination of a pressure to develop within new areas provided by competition and access to resources provided by cooperation” can lead to strong beneficial outcomes (Bengtsson & Kock, 2000: 424). Others emphasize the likelihood of value destruction (S. H. Park & Ungson, 2001), suggesting that competitors’ self-interests generate “greater risks for the firm of leakage of information” (Belderbos, Carree, Diederer, Lokshin, & Veugelers, 2004: 1247) and “motivate actions that threaten and frequently undermine joint ventures” (S. H. Park & Russo, 1996: 887). Scholars at either extreme have rarely considered the opposite view or articulated underlying conditions that may lead to different outcomes. Such polarized views and the lack of a nuanced analysis of simultaneity have inhibited theoretical understanding of the phenomenon.

The second problem, partly resulting from the first problem, is that the literature offers little insight regarding *how* simultaneous competition and cooperation manifests and affects outcomes. Cooperating firms are motivated to work together to create larger benefits, but competing firms remain in a constant state of suspicion as they must try to stay ahead of one another. Suspicion is likely to intensify as competition increases, but at the same time, the need to work together increases where cooperation leads to greater potential benefits. We know little about how such challenges manifest or the underlying mechanisms through which outcomes are affected. Since clarity of constructs and articulation of underlying logic are critical for theory building (Suddaby, 2010), ambiguity surrounding the nature and challenges of *coopetition*, and the absence of knowledge regarding theoretical mechanisms, is clearly problematic. These problems have hampered precise theorizing and deep empirical scrutiny of *coopetition*.

This paper addresses the first problem by showing how a fine-grained analysis of simultaneity and outcomes provides deeper theoretical insights. We systematically analyze core implications of competition and cooperation individually and juxtapose them to develop theoretical insights regarding their interplay when they occur simultaneously. We lay out possible outcomes from *coopetition*, consisting of joint value creation for all parties, value creation for individual firms, and destruction of value. We suggest that polarized views in

the literature have emerged as a result of superficial conceptualization of coopetition and articulate clear conditions where each outcome is likely to occur. Our paper addresses the second problem by introducing key coopetition mechanisms that emerge through the dynamic interplay of competition and cooperation. These mechanisms reveal unique underlying properties of the phenomenon and help to explain why and how coopetition may lead to varying outcomes. We also articulate how effective navigation of two fundamental elements of coopetition, simultaneity and value creation intent, are critical in order to derive positive outcomes and explain that nuances in how they are navigated can significantly affect outcomes.

Through conceptualization of how coopetition manifests, what its underlying properties are, and how such properties lead to varying outcomes, this paper advances the literature towards a theory of coopetition. We provide in-depth explanations of the core elements of simultaneity and value creation intent, develop coopetition mechanisms to explain the nature of the phenomenon and how it affects outcomes, and articulate important theoretical nuances that have been largely ignored in prior research. Thus, our paper provides a concrete basis for rigorous theoretical and empirical analysis of this unique and important phenomenon.

Conceptual Development

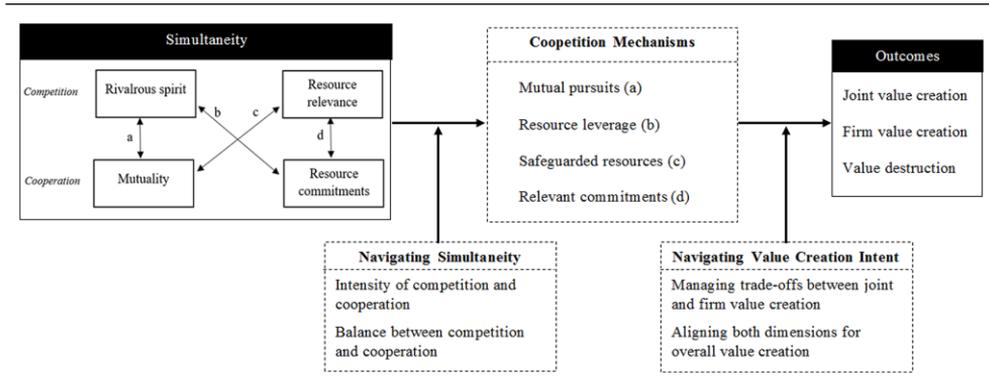
We begin with a clear definition: *coopetition refers to simultaneous competition and cooperation among firms with value creation intent*. The two elements to this definition are simultaneity and value creation intent. Simultaneity refers to the concurrent presence of competition and cooperation, while value creation intent refers to firms' primary ambition to generate new, additional benefits. Simultaneity of competition and cooperation (henceforth simultaneity) has been widely recognized as integral to coopetition (Bengtsson & Kock, 2000; Gnyawali et al., 2006; Ketchen et al., 2004), though its theoretical development has been superficial. Intent to create value, which is the overriding motivation for firms to engage in coopetition, has received limited attention; researchers have instead examined whether value *is* created (Arslan, in press; Gnyawali & Park, 2011; Ritala, 2012). We stress the importance of value creation intent because such intent pushes firms to engage in complex and risky pursuits (e.g., Fernandez, Le Roy, & Gnyawali, 2014; Gnyawali et al., 2016) despite the potential for value destruction if efforts are unsuccessful (Hamel, 1991; S. H. Park & Ungson, 2001). Intent to create value also distinguishes coopetition from collusion, which we discuss later.

Conceptual Framework

A conceptual framework of coopetition needs to explain how the simultaneous occurrence of competition and cooperation with value creation intent manifests in unique ways, how such manifestations lead to varying opportunities and challenges, and what theoretical nuances might help explain differences in outcomes from coopetition. These considerations have driven our framework, which is laid out in Figure 1. We focus our theorizing at the dyadic level for conceptual precision and clarity, but many insights are also relevant in multiparty competition relationships.

Since coopetition involves simultaneous competition and cooperation, and in order to establish a basis for an in-depth discussion of simultaneity, we begin by explicating

Figure 1
A Conceptual Model of Coopetition



competition and cooperation individually. We identify two major implications of competition, rivalrous spirit and resource relevance, and of cooperation, mutuality and resource commitments. We then juxtapose them to develop insights regarding their interplay when they occur simultaneously.

We suggest that the interplays between particular aspects of competition and cooperation manifest through four coopetition mechanisms: mutual pursuits, resource leverage, safeguarded resources, and relevant commitments. In Figure 1, the a, b, c, d notations in the box labeled Competition Mechanisms correspond to a given interplay in the Simultaneity box. Coopetition mechanisms explain the underlying properties of coopetition by embodying dyad-level forces arising from the interplays of the specific aspects of competition and cooperation. The mechanisms can have both positive and negative consequences, thereby generating both opportunities and challenges for value creation. We argue that the coopetition mechanisms and the way they work make coopetition truly unique and intriguing. Positive and negative consequences of the coopetition mechanisms largely depend on navigation of simultaneity. Navigating simultaneity requires that appropriate intensity of competition and cooperation, and balance between these conflicting logics, are maintained. We identify three outcomes—joint value creation, firm value creation, and value destruction—and explain how these are shaped by the coopetition mechanisms. Furthermore, we explain how the intent to create value in coopetition may be navigated to maximize value creation and limit value destruction. The intricacies and subtleties occurring between simultaneity (left box) and outcomes (right box), captured by the three centrally positioned boxes in Figure 1, illuminate the unique, challenging, and complex nature of coopetition (e.g., Bengtsson & Kock, 2000; Fernandez et al., 2014; Gnyawali et al., 2016), which has not been articulated in the literature. We now explain each aspect in detail, beginning with individual implications of competition and cooperation.

Competition

Competition occurs as firms strive for superiority through the pursuit of mutually incompatible positions in the same markets (Porter, 1980). Mutually incompatible positions mean

that two firms cannot achieve the same type of superiority in the same area, such as pursuing an exclusive contract with the same customer. Competition may also occur in terms of resources and technologies (e.g., Markman, Gianiodis, & Buchholtz, 2009). However, since resources are developed to meet market requirements (Day, 1981; Peteraf, 1993) and understanding market-oriented actions are critical to competition (Chen, 1996), incompatible market positions are the basis of how competition is understood.

Competition can be observed through the frequency and aggression of firm actions and responses (Chen & MacMillan, 1992; Chen & Miller, 1994; Young, Smith, Grimm, & Simon, 2000). With the goal of improving or defending their superiority, firms with significant incompatibilities in terms of markets, resources, and technologies are likely to compete vigorously. Firms are more likely to pay attention to competitors with greater overlapping interests (Chen, 1996) or those with overlaps in important markets (Gimeno, 1999). Sony and Samsung Electronics, for example, engage in strong competition as they strive for superiority in the same global electronics market (Gnyawali & Park, 2011). By distilling key insights from the literature, we identify two core implications of dyad-level competition: rivalrous spirit and resource relevance.

Rivalrous spirit. Rivalrous spirit refers to firms' impetus to improve in order to sustain or augment their market positions (e.g., Baum & Korn, 1996; Chen, Smith, & Grimm, 1992; Smith, Grimm, & Gannon, 1992). Incompatible market positions lead to head-to-head contests between firms as they cannot both achieve the same superiority (cf. Porter, 1985). Rivalrous spirit emerges as both firms are motivated to consistently improve in "an incessant race to get or to keep ahead of one another" (Kirzner, 1973: 20).

Rivalrous spirit between firms has several potential advantages. It encourages efficiency because superiority is bestowed on those who can maximize the productive value of their resources. Therefore, pursuing superiority creates a force "through which resources 'gravitate' toward their most productive uses" (Lado, Boyd, & Hanlon, 1997: 119) as firms are motivated to minimize slack and optimally allocate their resources. Rivalrous spirit also accelerates innovation because innovating at a more rapid pace than competitors helps firms to achieve a competitive edge (Hamel, Doz, & Prahalad, 1989). Innovation requires proactive opportunity-seeking behavior and a steady pipeline of new ideas. Competing firms are propelled to identify novel connections between means and ends (e.g., Kirzner, 1997) and pursue such ideas to achieve superior positions.

There are also downsides associated with rivalrous spirit. In order to gain a competitive edge, competitors are motivated to behave in a self-interested manner that could potentially be hurtful to both sides (e.g., Chen & Miller, 1994; Hamel, 1991). Incompatible positions and striving to outcompete each other may engender distrust between competitors because firms can each benefit from dislodging one another. Thus, hostile intents and self-interested focus make competing firms rather suspicious and cautious of each other.

Resource relevance. Resource relevance refers to the relative value of firms' resources to one other. Insights from population ecology (Hannan & Freeman, 1977), specifically niche overlap theory (Baum & Mezias, 1992), suggest that competitors face many of the same opportunities and challenges. Therefore, resources developed to address them are likely to be useful to one other (Ingram & Qingyuan, 2008).

Resource relevance means that resources developed to pursue incompatible positions are likely of high relative value between competitors (Bengtsson & Kock, 2000; Dussauge, Garrette, & Mitchell, 2000; Gnyawali & Park, 2009; Ingram & Qingyuan, 2008). Such pre-existing specialization of competitors' resources facilitates immediate use by another competitor with little additional investment. In addition, resource relevance leads competitors to develop overlapping dominant logics and deep understanding of each other's competitive behavior and priorities (Boeker, Goodstein, Stephan, & Murmann, 1997; Dussauge et al., 2000; Gnyawali & Park, 2011; Stephan & Boeker, 2001). When opportunities arise, competitors are more likely to learn from each other and learn quickly.

The flip side of resource relevance is that competitors are capable of capitalizing on any leakage of resources. Overlapping dominant logics enhance absorptive capacity (Cohen & Levinthal, 1990; Lane & Lubatkin, 1998; Song, Gnyawali, Srivastava, & Asgari, 2018), which makes firms disproportionately well equipped to identify, assimilate, and apply each other's new and valuable knowledge (Dussauge et al., 2000; Gnyawali & Park, 2009). This may lead to fear of sharing resources between competitors because capability to misappropriate and associated rewards are greater.

Cooperation

Cooperation refers to "voluntary arrangements between firms involving exchange, sharing, or codevelopment of products, technologies, or services" (Gulati, 1998: 293). Firms cooperate for a variety of purposes such as new technological development (Gnyawali & Park, 2011), access to complementary capabilities (Diestre & Rajagopalan, 2012), and learning (Hamel, 1991). Cooperation enables pursuit of large-scale, resource intensive, and risky projects, which an individual firm may not be able to pursue alone (Contractor & Lorange, 1988; Dyer & Singh, 1998).

Cooperative ties facilitate flows of resources and capabilities between firms (Gnyawali & Madhavan, 2001). Tie strength varies from strong cooperation and "special relationships" to weak cooperation and purely economic agreements (Uzzi, 1997). Strong cooperation involves deep connections and social attachments leading to development of reciprocal norms. Weak cooperation suggests arm's-length type engagements with limited human or social exchange (Uzzi, 1999). Drawing from literature on strategic alliances and interfirm networks, we identify two key aspects of dyad-level cooperation: mutuality and resource commitments.

Mutuality. Mutuality refers to a reciprocal cooperative intent between partners. As firms cooperate over time, relational governance emerges through trust, shared norms, and social relations (Cao & Lumineau, 2015; Carson, Madhok, & Wu, 2006). Relational governance facilitates mutual communication and augments stability within the cooperative relationship (Bolton & Dewatripont, 2005; Dyer & Singh, 1998; Macneil, 1980).

Mutuality has several advantages. Shared norms generate common understanding, compatible goals, and "a commitment to joint action" (Poppo & Zenger, 2002: 710). Such norms serve as mutual heuristics (Mellewigt, Thomas, Weller, & Zajac, 2017) that can establish joint understanding of types of behaviors that are appropriate versus those that are not (Poppo & Zenger, 2002). Mutuality also establishes self-enforcing safeguards to deter opportunism (Cao & Lumineau, 2015; Mellewigt et al., 2017; Poppo, Zhou, & Ryu, 2008). Self-enforcing

safeguards arise through informal, nonlegal barriers that curb opportunism (Macaulay, 1963), such as potential reductions in commitment or cessation of unsolicited efforts. They facilitate rapid informal redress and holistic protection and are less costly than third-party safeguards (Dyer & Singh, 1998).

However, mutuality may reduce flexibility because firms must invest time and resources to establish trust and shared norms (Wang, Yeung, & Zhang, 2011). These investments represent a form of mutual hostage (e.g., Telser, 1980) that locks firms into particular relationships and limits availability of resources to cooperate with others. Mutuality also generates relational inertia, whereby partners may become “content” within a relationship and may cease to evaluate each other against external standards (Dyer, Singh, & Hesterly, in press; Stevens, MacDuffie, & Helper, 2015). Reduced flexibility and relational inertia may limit diversity of resources accessible to firms (Burt, 1992), and in combination, these factors might make firms less likely to achieve innovation or efficiency (Dyer et al., in press; Lado et al., 1997).

Resource commitments. Resource commitments refer to the volume of sharing that occurs between firms in terms of knowledge, skills, capabilities, and assets. Cooperative relationships provide access to resources as well as some mechanisms for resources to flow between firms (Cassiman, di Guardo, & Valentini, 2009; Dyer & Singh, 1998; Gnyawali & Madhavan, 2001). The extent of commitments would be higher when cooperation is strong (e.g., pursuit of R&D alliances and joint ventures) and lower when cooperation is weak (e.g., simple contractual agreements; Contractor & Lorange, 1988).

Resource commitments enable firms to jointly pursue large-scale opportunities by sharing and combining resources (Barringer & Harrison, 2000; Gnyawali & Park, 2011). For instance, pursuit of radical technological breakthroughs and similar complex goals require a high volume of resource sharing. Resource commitments increase expectations of joint positive outcomes, which encourages partners to maintain allegiance to the cooperative relationship (Arslan, in press; Bhattacharya, Devinney, & Pillutla, 1998).

Resource commitments may also generate several downsides. High levels of resource sharing may lead to suboptimal allocation of valuable resources that could be deployed more productively elsewhere (Lado et al., 1997). In addition, resource commitments may drain firms’ internal resource stocks and ensnare firms within particular relationships. This constrains the resources available for pursuit of individual firm superiority, makes firms vulnerable to opportunistic partners (e.g., Hamel, 1991), and limits differentiation potential in output markets.

Coopetition Mechanisms

Building from these insights, we now articulate unique manifestations arising from interplays between a specific aspect of competition and a specific aspect of cooperation. These manifestations are labeled coopetition mechanisms. Coopetition mechanisms embody dyad-level forces that emerge when firms are simultaneously engaged in competition and cooperation with the intent to create value. Interplays between the two aspects of competition and the two aspects of cooperation lead to four coopetition mechanisms: *mutual pursuits*, *resource leverage*, *safeguarded resources*, and *relevant commitments*. We suggest that the coopetition mechanisms help to explain how simultaneous competition and cooperation can lead to both positive and negative consequences.

Mutual pursuits. Mutual pursuits refers to the interweaving of sustained impetus to improve and reciprocal cooperative intent. It manifests through the interplay of rivalrous pursuit (competition) and mutuality (cooperation) as represented by the leftmost vertical arrow (labeled “a”) in the Simultaneity box of Figure 1. When two firms share rivalrous spirit and mutuality, they are driven to pursue individual superiority while being simultaneously dependent on each other as a result of the cooperative relationship.

We suggest that there are three key consequences of mutual pursuits. First, the spur to achieve superiority (rivalrous spirit) may be augmented by common understanding (mutuality); thus, the implications of rivalrous spirit and mutuality may be complementary. This creates a unique situation where the relentless efforts of each firm to improve are coupled with the joint focus of cooperating firms. Where common focus occurs alongside a constant push for novel ideas and new opportunities, partners can maximize mutual outcomes through joint innovation and efficiency.

Second, the advantages of one aspect may offset the downsides of the other. Innovation and efficiency stemming from rivalrous spirit can offset potential relational inertia caused by mutuality, whereas self-enforcing safeguards (mutuality) can address possible self-interested focus (rivalrous spirit). On one hand, the push for superiority through innovation is particularly important where mutuality leads to relational inertia (Dyer et al., in press). By motivating firms to innovate at a faster rate than competitors, rivalrous spirit can erode potential contentedness or complacency within the relationship. On the other hand, self-enforcing safeguards arising from mutuality may constrain the self-interested focus emerging from rivalrous spirit. Opportunistic efforts are incentivized when firms are pursuing incompatible positions, but self-enforcing safeguards provide cues regarding behaviors that are acceptable. Mutuality “provides a framework of references to guide firms to act in expected ways” (Cao & Lumineau, 2015: 17), which can establish informal penalties against self-interest when it threatens common interests.

Third, in contrast to the positive consequences discussed above, the simultaneous occurrence of rivalrous spirit and mutuality may also generate risks. As mutuality establishes common understanding through trust and shared norms, partners become more comfortable exchanging knowledge and resources with one another. A self-interested partner willing to behave opportunistically may exploit this opportunity to misappropriate the other partner’s assets in greater quantities and possibly with less likelihood of detection. As Granovetter noted, “The more complete the trust, the greater the potential gain from malfeasance” (1985: 491). Thus, while mutual pursuits generate promising opportunities to optimize joint outcomes and address the downsides associated with rivalrous spirit and mutuality, they may also enable more potent opportunistic behaviors.

Resource leverage. Resource leverage refers to the interweaving of sustained impetus to improve and resource sharing between firms. It emerges from the interplay of rivalrous spirit and resource commitments and is captured by the diagonal arrow labeled “b.” Resource leverage means that two firms in cooperation are motivated to strive for individual superiority while having access to each other’s resource commitments at the same time.

Resource leverage has three important consequences. First, resource commitments could facilitate resource sharing between firms while rivalrous spirit encourages these resources to be applied to optimal means. Resource commitments provide necessary access to knowledge

and resources to realize benefits while, at the same time, rivalrous spirit motivates firms to proactively seek out new opportunities so that resources are applied innovatively and efficiently.

Second, advantages of rivalrous spirit may address downsides of resource commitments and vice versa. Motivation for efficiency engendered by rivalrous spirit can allay concerns of resource slack that are often associated with resource commitments. Rivalrous spirit spurs firms to apply resources to their most productive uses, which drives firms to redistribute resources that are accruing suboptimal returns within the relationship. At the same time, self-interested focus may be addressed by large-scale opportunities arising from resource commitments. Future expectancy of joint positive outcomes that could not be achieved alone establishes compatible goals that reduce the likelihood of self-interest (Arslan, in press).

Third, resource leverage could also increase risks of opportunistic “holdup” (Goldberg, 1976). Investments in resource sharing may lock partners into particular relationships and, thus, increase vulnerability. Partners sharing resources will earn no rewards from their investments if the cooperative agreement does not proceed. An opportunistic firm may exploit this type of situation to its benefit by threatening to terminate unless the partner agrees to offer additional concessions. Resource commitments increase investments in resource sharing, and rivalrous spirit increases firms’ self-interested focus, so the risk is particularly significant when both are present simultaneously.

Safeguarded resources. Safeguarded resources refers to the interweaving of reciprocal cooperative intent and valuable resources. It arises with the interplay between resource relevance and mutuality captured by the diagonal arrow labeled “c.” It means that partners may hold resources that are highly valuable to one another while the relationship is also supported by stability, informal norms, and tacit safeguards.

We explicate three important consequences of safeguarded resources. First, mutuality may cultivate a joint focus that helps maximize resource relevance. Through a common understanding in the dyad, mutuality establishes conditions that are conducive to joint development of valuable resources for the partners. Partners with resource relevance would have preexisting specialization in their resource sets because they rely on similar foundational resources. This specialization is augmented by compatible goals and stability arising from mutuality, which facilitate constructive and enduring joint development of resources.

Second, the advantages of one aspect may offset the downsides of the other. On one hand, lack of flexibility associated with mutuality is less damaging when resource relevance facilitates access to valuable resources. On the other hand, though firms with resource relevance are capable of capitalizing on each other’s resource leakage, they are less likely to do so when self-enforcing safeguards are present. Through relational governance, mutuality establishes clear distinctions between acceptable and unacceptable behaviors, thereby lessening risks associated with firms’ capability to absorb each other’s resources. Where mutuality exists, perceived benefits of internalizing each other’s valuable resources must be weighed against informal penalties available through trust, shared norms, and social relations.

Third, safeguarded resources may also generate risks because partners may become highly dependent on one another. Dependence can emerge when resources of high relative value are present within concrete and enduring relationships (e.g., Burgelman, 2002). A self-reinforcing cycle of interdependence may arise, whereby preexisting specialization generates relational

inertia and relational inertia makes partners less likely to search beyond the dyad for new sources of specialization. Thus, while resource leverage can maximize resource relevance and potentially offset lack of flexibility, it also increases risks of dependence.

Relevant commitments. Relevant commitments refers to the interweaving of the relative value of resources and volume of resource sharing between firms. It emerges through the interplay between resource relevance and resource commitments as indicated by the vertical arrow labeled “d” in Figure 1. Relevant commitments mean that resources of significant value to partners are committed in volume to the relationship.

We suggest that three key consequences arise when resource relevance and resource commitments occur simultaneously. First, resource relevance establishes complementarities between resource sets while resource commitments augment the volume with which such complementary resources are committed to the relationship. Thus, relevant commitments generate potential for partners to achieve enhanced access to high quality resources. This satisfies a critical requirement of interfirm relationships by granting partners access to resources that they perceive as valuable (Das & Teng, 2000; Dyer et al., in press; Gulati, Lavie, & Madhavan 2011).

Second, advantages of resource relevance can address downsides of resource commitments and vice versa. Resource relevance generates preexisting specialization, which may offset the potential drain on internal resource stocks arising from resource commitments. Preexisting specialization offers superior opportunities for complementarities, which increases the potential to grow the size of the overall pie. Thus, the firm’s slice is bigger (Brandenburger & Nalebuff, 1996), which remedies some challenges of resource commitments. Similarly, pursuit of large-scale opportunities enabled by resource commitments may help firms to overcome fear of sharing resources induced by resource relevance. Where joint opportunities are high, self-interested behavior is less likely because it jeopardizes potential joint rewards (Arslan, in press).

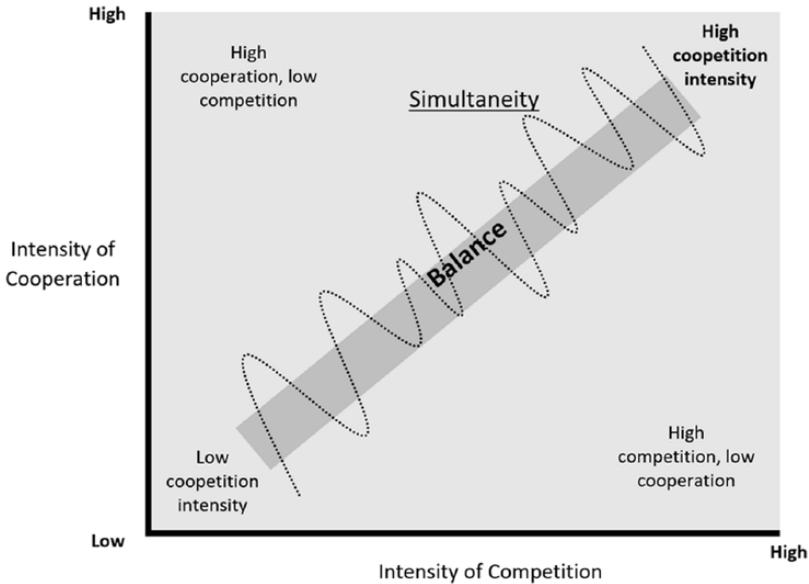
Third, relevant commitments may also lead to risks. High volumes of relevant resource sharing may make it difficult for partners to differentiate their individual offerings because such offerings rely on the same jointly developed resources and remaining resources for internal development may be limited. As a result, partners may be ill equipped to add value to their individual outputs when consumers have the option of a closely related substitute. Consequently, despite potential to generate enhanced access to high quality resources and offset downsides of resource commitments, relevant commitments introduces risks because firms may be constrained by a lack of valuable resources to develop individual offerings.

In summary, each cooptation mechanism arises from the interplay of a specific aspect of competition and a specific aspect of cooperation and has positive and negative consequences. The four mechanisms collectively illuminate how cooptation manifests in unique ways and provide new insights about how cooptation affects outcomes.

Navigating Simultaneity

While much of the literature takes a rather simplistic view of simultaneity as noted earlier, we stress that not all temporal overlaps between competition and cooperation are the same, nor will they have similar consequences. In this section, we lay out the varying nature of

Figure 2
Navigating Simultaneity Through Intensity and Balance



simultaneity and argue that different types of competition engagements may generate different consequences from the coopetition mechanisms. For example, when competition and cooperation are simultaneously weak, the engagement is fairly simple to understand and manage, benefits and challenges may be low, and value creation might be limited. Yet when competition and cooperation are simultaneously strong, engagements are more complex and challenging, but the potential for value creation may be greater. Figure 2 illustrates how simultaneity varies along two dimensions: intensity and balance. Differences in these dimensions shape the manifestations of the coopetition mechanisms and the potential positive or negative consequences that are emphasized.

Intensity. Intensity refers to the magnitude of competition and cooperation (Luo et al., 2016; B. J. Park et al., 2014). In Figure 2, intensities of competition and cooperation are captured by the *x*-axis and *y*-axis, respectively. Where intensities of competition and cooperation are moderate, the implications of each constituent element are sufficiently strong to derive potential benefits but not so strong that they suppress the implications of the other element. If competition or cooperation are overly strong, the implications of the other element may be suppressed because they are inherently conflicting (Bengtsson & Kock, 2000). For example, if competition is overly strong, the level of self-interest makes it difficult to foster mutuality, but if competition is overly weak, it may be insufficient to spur efficiency and innovation. If cooperation is overly strong, relational inertia may smother innovation, but weak cooperation may not generate relational norms and self-enforcing safeguards within the relationship. Consequently, moderately strong competition and cooperation are more likely to generate positive consequences from the coopetition mechanisms and thereby positively influence value creation.

Balance. Balance refers to evenness between competition and cooperation (Luo et al., 2016), as indicated by the darkly shaded diagonal area splitting the axes in Figure 2. If either competition or cooperation is much stronger than the other, the engagement is unbalanced. A perfect balance between competition and cooperation is rarely achievable, so the broken line in Figure 2 illustrate how competition and cooperation may oscillate around an ideal balance. Balance creates stability by offsetting potential challenges and keeping opposing forces in check (Das & Teng, 2000; Lado et al., 1997; B. J. Park et al., 2014). When competition and cooperation are balanced, there is similar emphasis on each element, which enables partners to generate positive consequences from cooperation. Where rivalrous spirit and mutuality are even, for example, the push for efficiency and innovation (rivalrous spirit) can be matched by common understanding (mutuality) to derive jointly positive consequences. Balance between competition and cooperation may also allow the benefits of one element to address the costs of the other. Similar levels of rivalrous spirit and mutuality can increase the likelihood that self-interest is offset by self-enforcing safeguards or that relational inertia is offset by innovation and efficiency. Therefore, we suggest that positive consequences from the cooperation mechanisms are more likely when competition and cooperation are balanced.

Navigating simultaneity involves being aware of the dimensions of simultaneity and how they may be achieved and being prepared to act when opportunities arise to make necessary adjustments in intensity and balance. For example, a firm may have an opportunity to modify an existing cooperative agreement or enter into a new agreement with an existing partner. Such an opportunity could be considered in terms of adjusting intensity and balance with the partner. This type of adjustment could also be evaluated in the context of the firm's portfolio of cooperation relationships. At the portfolio level, firms could navigate simultaneity by divesting relationships that may be weak or unbalanced, attempting to build new relationships that are moderately intense and balanced, or adjusting intensity or balance in existing partnerships where possible.

Both intensity and balance generate intricate trade-offs that influence how simultaneity may manifest through the cooperation mechanisms. Depending on how they are navigated, consequences of the cooperation mechanisms can range from severely positive to acutely negative. Where competition and cooperation are moderately strong and balanced, positive consequences that may be emphasized include relentless improvement at the dyad level, efficient and innovative application of resources, enhanced access to valuable resources, and superior governance through self-enforcing safeguards. Negative consequences we have outlined (increased opportunities for misappropriation, exposure to holdup, potential high dependencies, and difficulties in achieving individual differentiation) are likely to arise where appropriate intensity and balance are not achieved.

In summary, as depicted in Figure 2, cooperation intensity is high when the intensities of competition and cooperation are high. Balance is maintained when a rise in the intensity of competition is matched by a corresponding rise in the intensity of cooperation and vice versa. We suggest that positive consequences of the cooperation mechanisms will increase in line with intensity and balance to a point and that a moderately intense and balanced relationship is likely to generate the most beneficial consequences. Our analysis thus underscores that simultaneity in cooperation research should not be viewed in simplistic terms. Simultaneity can range from a mere existence of a temporal overlap with low competition and low

cooperation (bottom left of Figure 2) to highly intense and balanced (top right of Figure 2). Navigation of such simultaneity is critical in order to maximize positive consequences from coopetition. We next discuss the range of potential outcomes from coopetition and explain how the impact on outcomes is determined by how value creation intent, the second fundamental element of coopetition, is navigated.

Outcomes

As noted, polarized views about coopetition being either beneficial or hurtful have limited our understanding of the range of possible outcomes and how they may be achieved. We suggest a spectrum of outcomes that firms may achieve from coopetition and lay out when and how each outcome would likely arise. Possible outcomes span joint value creation, firm value creation, and value destruction. We argue that outcomes depend on the positive and negative consequences emerging from the coopetition mechanisms and on how value creation intent is navigated. Value creation intent is fundamental to coopetition, but such intent does not guarantee that value creation indeed occurs. Instead, beneficial outcomes require firms to effectively navigate value creation intent.

Value creation refers to the generation of additional benefits from a particular engagement (Lavie, 2006; Rai, 2016; Ritala & Hurmelinna-Laukkanen, 2009). Benefits can be divided into joint value creation and firm value creation (Khanna, Gulati, & Nohria, 1998; Rai, 2016). The former refers to the total pie generated by all partners from their mutual efforts, whereas the latter refers to the additional benefits generated by individual firms in the relationship (Lavie, 2006; Rai, 2016). Value destruction refers to a net loss whereby costs from the relationship outweigh benefits. A net loss may occur at the joint level, firm level, or both. Outcomes are not mutually exclusive, so despite a net joint loss, one firm in a relationship may still generate its own value.

Joint value creation. Joint value creation refers to the total pie generated by all partners from their mutual efforts. We suggest two key sources of joint value creation in coopetition: motivation to tackle the same ambitious problems and high-volume commitments of complementary resources.

Coopetition partners facing the same opportunities and challenges (Gnyawali & Park, 2011; Ingram & Qingyuan, 2008) may generate joint value because they are motivated to tackle the same ambitious problems. This is a key positive consequence of mutual pursuits whereby impetus to improve driven by competition is balanced with common understanding arising from cooperation. Mutual pursuits may mean that partners share a desire to jointly pursue difficult yet potentially highly rewarding opportunities. Consider the example of the S-LCD joint venture between Sony and Samsung Electronics (Gnyawali & Park, 2011). The venture was initiated because both firms were motivated to develop and commercialize liquid crystal display (LCD) technology for televisions. Strong global competition and R&D opportunities motivated the partners to pursue this ambitious goal, while strong cooperation through the joint venture arrangement established and sustained a shared understanding. Sony and Samsung's efforts led to joint value creation in the form of panel technology for LCD televisions and established LCD as the dominant standard for flat screen televisions at that time.

Joint value creation can also occur through high-volume commitments of complementary resources. This is a key positive consequence of relevant commitments, where resource relevance is balanced with voluminous resource commitments. Commitments of prespecialized, relevant resources can be combined in novel ways to create a greater level of joint value than the sum of the individual parts. This occurs through partners working together on a common problem while bringing and combining their own unique technologies and expertise. For example, joint value creation from the S-LCD venture was enabled by synergies between Sony and Samsung's capabilities. Sony was globally renowned for its television capabilities, while Samsung had strong expertise in LCD technology. These capabilities were leveraged to generate significant joint value (Gnyawali & Park, 2011).

Firm value creation. Firm value creation refers to additional benefits generated by individual firms in the relationship. While some have referred to these benefits as "value capture," we use "firm value creation" for two reasons. One, our focus is how and where additional benefits are generated rather than who captures them. By using "firm value creation," we emphasize the creation of additional value rather than appropriation of value. Two, value creation intent is fundamental to coopetition (Gnyawali & Park, 2011; Rai, 2016) and underscores the need to analyze how such value creation occurs. We discuss two key sources of firm value creation: further development of the firm's portion of the joint value through combination with the firm's internal resources and capabilities (Gnyawali & Park, 2011) and the application of knowledge and skills accessed through coopetition in other areas of the firm (Hamel, 1991; Madhok & Tallman, 1998; Rai, 2016).

Firms can generate their own additional value by combining their portion of the joint value with their own internal resources and capabilities. Resource relevance establishes prespecialization that may enable resource commitments to be transitioned between the firm and the dyad without loss of productive value. Consequently, it is less challenging to combine the firm's portion of the joint value with its own resources for firm value creation. In addition, because two direct competitors access the same joint value, each has a powerful incentive to maximize firm value to drive their individual superiority. For example, in the S-LCD venture, the success of Sony and Samsung was spurred by their need to develop competing television sets using the same jointly developed technology. Both firms combined the newly developed technology with their own marketing and engineering expertise to develop and market their individual Bravia and Bordeaux LCD television ranges (Gnyawali & Park, 2011).

Partners may also achieve firm value creation by applying knowledge and skills accessed through the partnership in other areas. Hamel (1991) highlighted how internalization of partners' valuable resources may be a primary objective of many competitor collaborations. Competitors have resources that are highly useful to one another, including those that are not intended for sharing. One possible consequence of mutual pursuits is the opportunity to appropriate the partner's resources in greater quantities and possibly with less likelihood of detection. At the same time, the flip side of resource relevance is absorptive capacity (Dussauge et al., 2000; Gnyawali & Park, 2009), which helps coopetition partners to access each other's private resources and employ them to generate value in other areas. For example, Sony and Samsung used knowledge and skills accessed through S-LCD to benefit their other R&D projects (e.g., light-emitting diode (LED) televisions and 3-D televisions).

A firm can derive greater or lesser value than its partners depending on its internal abilities and expertise (Gnyawali & Park, 2011). Superior value can be generated if a firm controls more valuable and/or complementary resources, if it is better equipped for learning (Hamel, 1991), or if it has access to a wider network of external resources (Gnyawali & Madhavan, 2001; Lavie, 2006) than its partners. Superior firm value may include both increased augmentation of joint value and greater internalization of the partner's knowledge and resources. In contrast, a firm with weaker resources and capabilities, or access to a less valuable network, may create less, if any, firm value. The potential for differential firm value creation is a source of instability in coopetition relationships that could compromise overall value creation unless value creation intent is navigated appropriately.

Value destruction. Value destruction refers to a net loss, whereby costs from the relationship outweigh benefits. We identify two situations where value destruction might occur: joint value destruction (net loss for the relationship) and firm value destruction (net loss for a firm).

Joint value destruction may occur through the negative consequence of the coopetition mechanisms. Where mutual pursuits lead to increased opportunities for self-interested partners to misappropriate each other's resources, it can cause distrust in the relationship and make partners less likely to invest in shared resources. This type of opportunistic misappropriation can also lead to tit-for-tat retaliation and overprotection of valuable resources (Arslan, in press). In extreme cases, it may even cause termination of the cooperative relationship (S. H. Park & Russo, 1996; S. H. Park & Ungson, 2001). Consequently, joint value destruction may arise from loss of investments in shared resources, additional costs of termination (negotiation, litigation, etc.), retaliation, or safeguarding.

Firm value destruction can occur when resource leverage exposes a firm's valuable resources to potentially self-interested partners. Where self-interested partners have superior abilities to appropriate resources, a firm's loss of valuable resources may exceed its gain from the relationship. In addition, safeguarded resources may lead to relational inertia when relevant resources are present within concrete and enduring relationships (e.g., Burgelman, 2002; Dyer et al., in press). Relational inertia causes firms to become "content" with what they have, making them less efficient and less proactive in their own internal pursuit of new and better solutions. It may also constrain adaptivity to environmental changes, reduce the diversity of firm knowledge, and thus increase vulnerability to more aggressive competitors (Dyer et al., in press). At the same time, enduring interdependencies and embeddedness mean that exiting this type of value destructing situation can be extremely costly (e.g., Burgelman, 2002; Hamel, 1991).

Navigating Value Creation Intent

As noted, value creation intent refers to firms' primary ambition to generate new, additional benefits from the relationship. Simultaneous competition and cooperation is a necessary condition for possible value creation, but simultaneity may be insufficient without purposeful efforts to navigate value creation intent. Value creation intent pushes firms to engage in complex and risky pursuits despite potential for value destruction if the pursuits are unsuccessful. Navigation of value creation intent means shifting attention and effort as the situation evolves to maximize value creation and limit value destruction. We illuminate two

aspects to navigating value creation intent: managing trade-offs between joint and firm value creation and aligning both dimensions for overall value creation.

Managing trade-offs between joint value creation and firm value creation. Although joint and firm value creation are not mutually exclusive, trade-offs between them are important to recognize and manage. To a point, we expect that joint value creation and firm value creation may be mutually reinforcing. Firm value creation relies on the growth of the overall pie, which is fueled by joint value creation (Rai, 2016), whereas joint value creation depends on complementary resources and capabilities, which are developed internally from firm value creation (Hamel et al., 1989). In the S-LCD venture, for example, both firms' LCD television ranges relied on the jointly developed LCD panel technology, while firm breakthroughs in the LCD technology helped to accelerate their joint efforts. Therefore, coopetition partners must divide their intent between both dimensions of value creation in order to foster synergies and interdependencies between them.

Nonetheless, past a certain point, the finite nature of resources means that efforts to push joint value creation will occur at the expense of firm value creation and vice versa. When this happens, a firm with more intent for firm value creation may prevent the joint pie from reaching its full potential, while pursuit of joint value creation may similarly hinder firm benefits (Khanna et al., 1998; Lado et al., 1997). Consequently, awareness and appreciation of both aspects must be weighed against recognition that there may be situations where it is necessary to focus on one over the other in line with wider strategic priorities. Intent to create joint value may be more helpful for large-scale projects (e.g., major product development or market entry; e.g., Fernandez et al., 2014; Garrette, Castañer, & Dussauge, 2009; Gnyawali & Park, 2011) where the scale and complexity requires intensive focus and significant resource endowments. In contrast, intent to create firm value may be more important in relationships where the goal is to learn from one another or access partners' relevant resources for internal pursuits (Dussauge et al., 2000; Hamel, 1991).

Aligning both dimensions for overall value creation. The second aspect of navigation is aligning both joint and firm value for overall value creation. It means maintaining awareness of the possible need to emphasize one dimension over the other in order to maintain adequate balance while avoiding overly high focus on either joint value or firm value. Where there is too much intent dedicated to either joint benefits or firm benefits, it is likely to lead to value destruction.

On one hand, very strong intent to create joint value may lead to value destruction by cultivating contentment and inertia (Hamel et al., 1989), or blunting firms' internal capabilities in areas where they are dependent on a more capable partner. If firms become accustomed to relying on one another, such dependencies may limit the learning of new skills and erode existing knowledge (Hamel, 1991). Joint value creation intent also has high cognitive costs (e.g., Fernandez et al., 2014; Gnyawali et al., 2016) that limit the managerial attention for identifying and pursuing firm benefits. As superiority in output markets is most often determined at the firm level (e.g., Hamel et al., 1989), it is apparent that excessive attention to joint value can lead to value destruction.

On the other hand, an overly strong focus on firm value can also generate value destruction by jeopardizing the mutual pie from which both firms must draw. Strong intent to create firm value may generate self-interest, misappropriation, and other opportunistic efforts (e.g.,

Khanna et al., 1998; S. H. Park & Russo, 1996). This may lead to an unstable, hostile, and distrustful relationship where partners are reluctant to share valuable resources with one another. Firms may seek additional formal safeguards to protect their resources, thereby raising costs (e.g., Williamson, 1975) and limiting resources available for more productive purposes (Dyer & Singh, 1998). If information about self-interested behavior filters back to the wider coopetition network, it may also create barriers to attracting future partners (Gulati, 1998; Hill, 1990). Thus, overemphasis on firm value creation may damage joint value and future firm value. Although some prioritization of firm or joint value creation intent may be necessary as a situation demands, we argue that firms should not compromise overall value creation by overfocusing on one or the other.

Discussion and Implications

While scholarly and managerial interest in coopetition has risen, limited attempts have been made to develop deeper theoretical insights regarding the nature and implications of the phenomenon. Simultaneity of competition and cooperation has been conceptualized rather superficially, and scholars have offered opposing views about value creation potential without providing an analysis of key conditions where positive and negative outcomes may arise. In addition, there is a critical lack of theorizing regarding the underlying properties of simultaneous competition and cooperation, how they manifest, and how and why coopetition leads to varying outcomes. Our paper takes important steps to address these problems, which have impeded precise theoretical and empirical inquiries and inhibited deep understanding of the phenomenon.

We have built on what is known about the two core elements of coopetition, simultaneity of competition and cooperation (Lado et al., 1997; B. J. Park et al., 2014) and value creation intent (Gnyawali & Park, 2011; Rai, 2016), to establish foundations for a theory of coopetition. We began by unpacking implications of competition and cooperation individually and explaining how the interplay between the specific aspects of competition and cooperation generates four coopetition mechanisms. The coopetition mechanisms embody underlying properties of the phenomenon and provide theoretical explanation of how positive and negative outcomes might occur. We explained how the consequences of the coopetition mechanisms depend on navigation of simultaneity in terms of intensity and balance. We have laid out possible scenarios for joint value creation, firm value creation, and value destruction and unpacked how the influence of the coopetition mechanisms on possible outcomes is shaped by how the second fundamental element of coopetition, value creation intent, is navigated. We argued that in order to maximize value creation and limit value destruction, firms must manage trade-offs between joint value creation and firm value creation and align both for overall value creation.

Before articulating contributions and research implications, we build from our analysis to draw an important distinction between two frequently confused phenomena: coopetition and collusion.

Coopetition Is Not Collusion

At first glance, coopetition may be confused with collusion because both involve competitor cooperation, which some literature suggests can occur for collusive purposes (e.g., Dixon,

1962; Oxley, Sampson, & Silverman, 2009; Tong & Reuer, 2010). We propose that the value creation intent inherent in coopetition clearly distinguishes these two phenomena. Despite difficult challenges, coopetition may fuel new joint and firm value creation (e.g., Gnyawali & Park, 2011; Jorde & Teece, 1990; Peng, Pike, Yang, & Roos, 2012; Ritala & Hurmelinna-Laukkanen, 2009) or may lead to losses for one or more partners. This contrasts with the value capture intent that is the primary focus of collusive arrangements and where firms are less exposed to risks of value destruction. Coopetition partners are motivated to create new additional benefits (i.e., growing the pie), whereas collusion partners are motivated to capture benefits (i.e., finding advantageous ways to divide the pie).

In contrast with the societal costs of collusion (e.g., Dobbin & Dowd, 1997; Harris, 2012), we suggest that important societal benefits may occur from coopetition. Coopetition facilitates development of unique products, new markets, and rapid technological innovation (Gnyawali & Park, 2011; Jorde & Teece, 1990) in forms that may be “not only benign but procompetitive” (Federal Trade Commission & U.S. Department of Justice, 2000: 1). Simultaneous market competition means that these outputs are subject to price competition, leading to advanced technologies at reduced prices (Gnyawali & Park, 2011). Such technologies may be developed efficiently because complementary capabilities enable partners to divide responsibilities within the relationship, with each focusing on their area of specialty. Coopetition can therefore make firms more competitive than each partner in isolation (Gomes-Casseres, 2006) and motivate other firms to keep up by creating value through their own collaborations (Gimeno, 2004; Gnyawali & Park, 2011). Some possibility of collusive coordination still exists in coopetition (Federal Trade Commission & U.S. Department of Justice, 2000; Fusfeld, 1958) because rational firms are unlikely to forego anticompetitive benefits. Furthermore, coopetition relationships may lead to aggregate effects that are detrimental to society, including rivalry reduction across a wider portfolio of competitive engagements (e.g., Amir, Lavie, & Hashai, 2017). However, within the specific context of the coopetition relationship, we suggest that firms’ value creation intent is likely to contribute to overall societal benefits for the reasons outlined.

Contributions

Our overarching contribution lies in laying out foundations for a theory that provides novel insights and extends our understanding of coopetition. We have taken three major steps in this regard. First, we developed and articulated four coopetition mechanisms that explain the unique nature of simultaneous competition and cooperation. The mechanisms embody the phenomenon’s underlying properties and illuminate why and how coopetition may generate both positive and negative consequences. Despite some initial efforts (Lado et al., 1997; B. J. Park et al., 2014), the literature lacks theorizing regarding the phenomenon of coopetition. We advance theoretical understanding of coopetition and its implications by illuminating specific manifestations that make coopetition unique and by explaining how such manifestations would lead to varying outcomes.

Second, our paper uncovers nuances in two fundamental elements of coopetition, simultaneity of competition and cooperation and value creation intent, and highlights how such nuances help to elevate our understanding of coopetition and how they influence outcomes. We explicated the importance of navigating these two elements in order to derive positive

outcomes and showed how small variations in navigation can significantly affect outcomes. Our analysis suggests that there is a burden for coopetition researchers to establish that both simultaneity of competition and cooperation among firms and value creation intent are demonstrated in their studies. Once these elements are established, researchers can dig deeper into different types of simultaneity by examining intensity and balance using the framework offered in Figure 2. We believe that our development of these central elements helps to create a shared understanding of what coopetition is (and is not) and drives the accumulation of a cohesive body of knowledge.

Third, our paper explains linkages between critical aspects of the phenomenon to augment our understanding of how coopetition works and how it affects outcomes. Without understanding the “black box” between simultaneity and outcomes, we cannot adequately theorize coopetition dynamics, how they materialize, or how they may be manipulated. By articulating the phenomenon’s underlying mechanisms, crystalizing its core elements, and laying out the spectrum of outcomes within a rounded conceptual framework, we provide a basis for a richer conversation on this important topic. By stressing how coopetition outcomes vary and explaining why this variation materializes, our paper elevates scholarly conversation beyond polarizing views and enables more detailed theorizing. We illustrated where and how both value creation and value destruction might emerge, thereby offering a nuanced understanding of the reasons for each. This opens several exciting avenues for new and deeper analysis about how the negative consequences of coopetition may be minimized and positive ones maximized.

Implications for Future Research

Our conceptual framework has several implications for theoretical and empirical research. Before delving into specific research opportunities, we underscore some wider priorities emerging from our paper. We urge researchers to stop making general observations about coopetition and its consequences and instead pursue greater levels of depth in their analysis. We call for explicit consideration of *both* simultaneity and value creation intent in future research and encourage researchers to build upon the theoretical nuances offered in this paper. Relatedly, we challenge researchers to examine intensity and balance within coopetition relationships to advance our understanding about how varying forms of simultaneity affect the mechanisms and outcomes of coopetition. We also urge deeper consideration of the outcomes of coopetition and how they are achieved. Recognition and further investigation of when and how different outcomes might occur, and how firms may emphasize value creation and limit value destruction, will be extremely valuable. We encourage scrutiny of purposeful efforts required to navigate value creation intent and trade-offs between joint and firm value creation.

Theoretical opportunities. Our paper developed constructs and theoretical insights that lead us towards a theory of coopetition, but much more theoretical development would be helpful in these areas. The four coopetition mechanisms we have identified are not exhaustive, and researchers could examine other important aspects of competition and cooperation in an attempt to identify and develop additional mechanisms. For example, drawing from the structural perspective of competition (e.g., Porter, 1980), researchers could examine the role

of market commonality (Chen, 1996) and other structural factors to further explicate competition. Similarly, researchers could delve into additional structural and relational explanations of cooperative networks. We also encourage greater scrutiny of the two core elements of cooperation, simultaneity and value creation intent. Regarding simultaneity, it will be valuable to contrast different levels of intensity and balance laid out in Figure 2, analyze the types of positive and negative consequences that emerge, and explicate firm capabilities that can aid management of such complex relationships. In addition, complementarities and trade-offs between joint benefits and firm benefits should be further dissected, with particular focus on the implications for overall value creation or destruction.

Further theoretical development is also necessary to identify and articulate contingencies that affect value creation. There are potential contingencies at the context level (such as nature and rate of technological change), dyad level (such as congruence of interests and resources), and firm level (such as individual capabilities). Researchers may find it helpful to build from literatures on industry evolution, strategic alliances, and capabilities to develop deeper insights about conditions that may enhance or constrain value creation in cooperation. Some progress has been made in terms of examining firm-level contingencies such as cooperation mind set, experience (Gnyawali & Park, 2011), and capabilities (Gnyawali et al., 2016), so a logical next step would be to build on that conversation and explore additional contingencies and how they influence joint and firm value creation.

While our analysis is focused at the dyad level for theoretical precision, many insights will be relevant for multiparty engagements. We encourage researchers to develop a multi-level perspective in further theorizing of cooperation and its implications. This could include, for example, multiple cooperation engagements by the same firm (a firm's ego network) and multiple competing firms cooperating together (a multifirm network). Insights concerning how simultaneity and value creation are navigated in a more complex network scenario, or across a portfolio of engagements, would be illuminating.

Empirical opportunities. We challenge empirical researchers to go beyond general illustrations of simultaneity and pursue finer-grained empirical studies by deeply scrutinizing intensity and balance as well as the cooperation mechanisms we have conceptualized. The framework of simultaneity in Figure 2 enables comparison of varying levels of intensity and balance and therefore provides a basis for more precise evaluation of different forms of cooperation. We also encourage empirical researchers to consider multiple perspectives and potential for multiple outcomes from cooperation and to examine key conditions that lead to variation in outcomes.

We call on researchers to identify appropriate operationalizations and measures to examine the core constructs in our framework. Building from our conceptual analysis, researchers could start with more straightforward measures before refining them to capture their intricacies. For example, rivalrous spirit could be measured through entries and exits in shared markets (Baum & Korn, 1999), while resource relevance may be observed through a combination of partners' technological (Gomes-Casseres, Hagedoorn, & Jaffe, 2006) and strategic (Gimeno & Woo, 1996) similarity. In addition, analysis of patent filings (e.g., B. J. Park et al., 2014) or managerial perceptions from survey data (e.g., Ritala, 2012) can help begin the process of distinguishing between pursuit of firm value creation and joint value creation. While our paper provides a basic starting point, additional ideas are required for measuring

intensity and balance, coopetition mechanisms, possible outcomes, and conditions where variation in outcomes might occur.

In conclusion, this paper tackled the twin problems that have inhibited theoretical understanding of the phenomenon of coopetition: superficial conceptualization of simultaneity and outcomes, and lack of theoretical insights about how coopetition manifests and affects outcomes. We have provided a nuanced analysis of simultaneity and value creation intent, identified and articulated four mechanisms that illuminate how coopetition manifests in unique ways and affects outcomes, and explained why outcomes may vary in coopetition. Collectively, the theoretical framework and insights contained in the paper offer a more systematic understanding of the phenomenon and advance the literature towards a theory of coopetition.

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