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An Integrative Framework for Coopetition-Based Scenarios

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ORIGINAL ARTICLE

An Integrative Framework for Coopetition-Based Scenarios

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Abstract

The interplay of cooperation and competition (“coopetition”) in supply chains is well studied. However, little is known about the established and evolving scenarios that exist among supply-chain actors in the presence of coopetition. The paper draws on the resource-based view and game-theoretic reasoning to develop an integrative framework with two aims. First, to classify coopetition-based scenarios with varying levels of complementarity and lastingness and to enhance the analysis of the scenarios. Second, as theoretically argued and demonstrated with a focus group discussion, the framework is developed to assist supply chain actors in strategically managing coopetition—by identifying a particular scenario and adjusting their resources and capability structuring, bundling, and leveraging accordingly.

Keywords: Coopetition, Game theory, Resource-based view, Supply chain, Risk management, Focus group

JEL classification: M00, M10, M11

Introduction

In the presence of growing similarities of supply chain (SC) actors and the complex arrangements among them, SC actors engage in various relationships in which their roles ultimately overlap to different extents (e.g., Gernsheimer et al., 2021). These overlapping roles lead to coopetition, defined here as a relationship involving simultaneous cooperative and competitive actions (adapted from Raza-Ullah et al., 2014). This led Bankvall et al. (2017) to call for a shift from a firm-centric perspective toward conceptualising scenarios that allow for mutually beneficial exchanges among SC actors, especially during a crisis such as the COVID-19 pandemic, when such actors faced business and supply disruptions (Riquelme-Medina et al., 2022). The COVID-19 pandemic underscores the pivotal role of interfirm relationships such as coopetition, for instance, in the joint development of vaccines and sharing of resources among pharmaceutical companies (see, e.g., Crick & Crick, 2020). In fact, during crises such as COVID-19 coopetition can mitigate the inherent risks and enhance

performance if properly navigated. Nevertheless, the mechanisms and structures through which SC actors successfully manage the dynamics of coopetition remain underresearched (see, e.g., Riquelme-Medina et al., 2022). While most past research dealt with traditional buyer–supplier relationships in cooperative settings, managers have little guidance concerning how to manage interfirm relationships in coopetition-based scenarios (e.g., Amata et al., 2022; Li & Choi, 2009; Trkman et al., 2015).

As Raza-Ullah et al. (2014) noted: “In spite of increased attention devoted to coopetition in management realm, our knowledge about the nature and materialization of this paradox is limited” (p. 3). The mentioned paradoxical tensions arise over the course of time when coopetition is intentionally orchestrated by SC actors. Following the line of thinking of Gnyawali and Ryan Charleton (2018) and Riquelme-Medina et al. (2022), it is important to recognise that not all instances of this temporal overlap between cooperation and competition are equal, and their outcomes can vary substantially. Enhanced insight into coopetition-based scenarios would hence allow SC

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actors to strategise with anticipation and mitigate potential risks associated with engaging in cooperative relationships (Greven et al., 2022). While one stream of coopetition research identifies a few coopetition types, the present study follows the calls for “more systematic research on these aspects” (see e.g., Czakon et al., 2020; Riquelme-Medina et al., 2022).

Trkman et al. (2015) developed frameworks to show what is partly needed to establish scenarios that focus on incorporating various actors from SCs. Still, managers lack a framework to assist them with decision making in various scenarios (see, e.g., Bouncken et al., 2022; Harrison & Pelletier, 2000; Meena et al., 2023). Further, the framework should encompass corresponding characteristics of the scenarios, possible outcomes for SC actors, and delineate coopetition based on the given scenarios (see, e.g., Choi & Wu, 2009a; Friedl & Wagner, 2016; Gnyawali et al., 2016; Jacobides et al., 2018; Trkman et al., 2015; Wichmann et al., 2016).

Drawing on the need to further theorise on the interactions in coopetition-based scenarios (see, e.g., Gernsheimer et al., 2021; Yadav et al., 2022), the aim of the study is to provide a context-based examination of interactions (i.e., those between SC actors that structure, bundle, and leverage resources and capabilities to simultaneously compete and cooperate) in coopetition-based scenarios. A coopetition-based scenario has a possible set of interactions between SC actors to take advantage of shared resources and capabilities (Gnyawali & Ryan Charleton, 2018). In fact, coopetition-based scenarios are anticipated to decrease the risk exposure of the SC actors, help establish a coping mechanism in a crisis, and develop SC resilience to the challenges arising in a period such as the COVID-19 pandemic (Crick et al., 2023). In addition to fulfilling a range of opportunities (e.g., developing risk-mitigation strategies; Meena et al., 2023), SC actors engage in scenarios with the goal of facilitating the joint creation of value. However, a pressing question remains: why are coopetition-based scenarios developed and what is key to their continued operation over a course of time?

In this paper, the resource-based view (RBV) is used first to derive the scenarios in which SC actors evaluate the extent to which their resources and capabilities are complementary while retaining a distinct role with a *valuable, rare, and inimitable* set of resources and capabilities (see, e.g., Heilig et al., 2017; Ritala et al., 2014). Second, game-theoretic reasoning is applied to examine further the nature of interactions in a particular scenario. The interactions demonstrate what is required for a mutually beneficial exchange between SC actors and what the actors should be cau-

tious about to avoid misappropriation (Gnyawali & Ryan Charleton, 2018; Ritala & Sainio, 2014; Zhang & Frazier, 2011).

The aim of depicting coopetition-based scenarios is twofold: first, to identify the characteristics and evolution of coopetition-based scenarios for the improved decision making of SC actors (e.g., Acciarini et al., 2020; Hani & Dagnino, 2020; Manzhynski & Figge, 2020), and, second, to help managers visualise various scenarios and, in turn, better communicate their coopetition strategies within their realm (e.g., Budler & Trkman, 2019). The achievement of the aims is demonstrated in a focus group discussion that allowed an investigation of the coopetition scenarios and the visualisation’s usefulness in a framework.

The following research question is postulated:

1. Which coopetition-based scenarios can be developed among SC actors, and what are the implications of these scenarios (e.g., on their decision-making processes and risk management approaches)?

The presented study adds to understanding of structures and mechanisms in interfirm cooperative relationships, namely coopetition-based scenarios. The study also enriches the understanding of the potential benefits coopetition-based scenarios can bring for SC actors, notably their resilience. The aim was to illustrate how a coopetition-based scenario provides clarity and direction, facilitates the alignment of goals, and coordinates intentions among SC actors to reap the joint benefits. Ultimately, the mentioned approach extends beyond the examination of cooperative ties among SC actors characteristic of past research (e.g., Rouyre et al., 2024), offering a more comprehensive framework for navigating coopetition.

The structure of the paper is as follows. First, the SC actors and coopetition scenarios are introduced. The aspects of resource complementarity and lastingness level are then drawn on to devise an integrative framework with four different coopetition-based scenarios. The scenarios are also demonstrated through real-life vignettes. The framework is discussed in a focus group with relevant informants from a national purchasing association. Finally, the theoretical contributions and managerial implications of this study are discussed, along with its limitations and future research avenues in the area of coopetition.

1 Supply chain actors and scenarios

Although past research encouraged SC actors to engage in coopetition due to possible desirable outcomes, such as joint product development and enhanced knowledge sharing (Martínez-Noya &

Narula, 2018), less attention has been paid to the broader relationship context (Bier et al., 2020; Choi & Wu, 2009b; Pihlajamaa et al., 2019). What was once true for AT&T, “on any given day, find Motorola to be a supplier, a buyer, a competitor, and a partner” (Hamel & Prahalad, 2013), has now become business-as-usual for various SC actors (see, e.g., Gernsheimer et al., 2021; Qin et al., 2020). Interfirm dynamics occur between two SC actors that bundle resources and capabilities in a given coopetition-based scenario (Chang et al., 2012; Rajala & Tidström, 2017).

Interfirm dynamics can cause an overlapping of the roles of the SC actors engaged in a particular coopetition-based scenario (see e.g., Börekçi et al., 2021). Such overlaps exist when SC actors cover the same area of interest partly or fully. The presence of overlapping roles causes SC actors’ resources and capabilities to become similar (i.e., greater competing similarity and lower cooperating similarity). For example, FedEx was a supplier of logistics activities to Amazon before its foray into the third-party logistics (3PL) industry. Both SC actors agreed to establish a fulfilment system for end users in a way that would achieve a superior performance by complementing their resources and capabilities (e.g., air transportation and last-mile delivery). Yet, with Amazon shifting its logistics to an in-house arrangement, a possible conflict of interest established the need to rethink their existing interactions and consider the implications of their overlapping roles (Chang et al., 2012; Wu et al., 2010).

In a similar vein, Peng et al. (2018) discussed two critical success factors for coopetition among SC actors: a particular set of roles and distinct domains in which coopetition occurs. Although the former is supposed to increase the level of complementarity in supporting a given coopetition-based scenario, distinct domains allow for scenarios to continue longer by limiting the cooperative tensions among the SC actors. While the interfirm dynamics established the need to examine interactions in coopetition-based scenarios beyond the conventional understanding of clearly defined roles, for instance, in buyer–supplier relationships (SeyedEsfahani et al., 2011), the pursuit of the “exploration” strategies for risk mitigation has further added to interest in investigating potential coopetition-based scenarios. While the scenarios considered in this paper are grounded in both the overlapping roles and exploration strategy, the latter acts as a double-edged sword. On one hand, as a risk-mitigating strategy exploration encourages one SC actor to attempt an exchange of resources and capabilities, often provided by other partnering organisations (El Baz & Ruel, 2021; Greco et al., 2022). On the other hand, such exploration carries risks re-

lated to potential returns manifesting over a longer timeframe. Elaborating on combinations of resources and capabilities and the role of the timespan of such arrangements, the interactions that emerge between the SC actors in different scenarios are discussed. This responds to the calls made by several researchers to theorise on the coopetition structures that show how leveraging “knacks” (i.e., specific resources and capabilities) helps with managing coopetition tensions, facilitating value creation, and keeping the SC actors afloat amid a crisis (see, e.g., Bouncken et al., 2020).

1.1 Complementarity for coopetition-based scenarios: the RBV

When coopetition is present, SC actors apparently engage in scenarios with the goal of reaping benefits such as improved joint performance (Crick, 2018; Raza-Ullah et al., 2014). For instance, the establishing of coopetition-based scenarios is instrumental for bolstering the resource pool of underresourced SC actors, providing them with an opportunity to exchange knowledge and to acquire resources and capabilities difficult to obtain individually (Crick et al., 2022; Zakrzewska-Bielawska, 2013). Such collaborative endeavours can also be initiated by underresourced SC actors in order to restrict a certain resource advantage possessed by another actor. When a more “powerful” SC actor acknowledges its resource advantage, it could consider potential resource leakage and aim to protect any contributions it might make in future interactions, reaching the “inflection point” (i.e., a critical moment signifying a considerable change in the trajectory of a coopetition-based scenario; Zakrzewska-Bielawska, 2013). After an inflection point, some researchers have observed the “capability to misappropriate” (i.e., the occurrence of “dark-side” practices). These could entail the weakening of certain SC actors’ ability to enhance their performance (Meena et al., 2023). For instance, technological progress could eventually impede one SC actor’s unique contributions by making its repertoire “value-adding” to the coopetition-based scenario.

Thus, one of the tenets for coopetition-based scenarios derived from the RBV refers to the contributions of the SC actors. The potential benefits of their interactions in the scenarios nonetheless depend upon the unique contributions the SC actors can bundle together (Das & Teng, 2000). Wang and Chen (2022) argue that SC actors’ acquisition of resources across different domains can boost the innovative capacity of a particular SC actor and generate superior value for all by leveraging the “collective insights, resources and capabilities.” In fact, Gnyawali and Park

(2009) suggest that such leveraging depends on the complementarity between the SC actors in a given scenario. The level of complementarity reveals the extent to which SC actors' resources and capabilities in coopetition-based scenarios are suited to each other. The variation of complementarity levels among SC actors is often identified as a coopetition characteristic (see, e.g., Czakon et al., 2020; Huang & Chu, 2015; Raza-Ullah et al., 2014).

I drew on the works of Bouncken et al. (2015) and Gnyawali and Ryan Charleton (2018) to demonstrate that SC actors achieve complementarity by structuring and bundling their resources and capabilities (see Table 1 for more). However, while bundling the resources and capabilities, SC actors need to secure their unique contributions (Crick & Crick, 2016; Crick, 2018). Here, the RBV provides an insight into the double-edged nature of complementarity in coopetition-based scenarios. While on one hand SC actors must leverage resources and capabilities to achieve a certain level of complementarity (Bjerke & Hultman, 2004; Chetty & Wilson, 2003), on the other hand SC actors have to remain unique in their contributions to retain their *inimitability*. Although unique contribution is critical for interactions among SC actors to continue, resource and capability leveraging allows SC actors to capitalise on the complementarity. Such an ability to misappropriate may pose additional challenges in coopetition-based scenarios (Gnyawali & Ryan Charleton, 2018). For instance, one company might use the shared R&D insights to develop an alternative product outside the agreed-upon scope of the coopetition-based scenario, gaining a competitive edge in a different market segment. Such misappropriation not only dilutes the nature of coopetition but also directly threatens the uniqueness and competitive advantage of the SC actor. To mitigate the risks of misappropriation, it is suggested that SC actors employ a "long-term orientation," accompanied by control mechanisms such as clearly defined agreements, regular monitoring, and the assurance of mutual trust through transparent communication (see, e.g., Budler et al., 2024; Greven et al., 2022; Oke, 2020). Greven et al. (2022) add that "what-if" analyses and monitoring are critical for managing the balance between cooperation and competition, ensuring that the coopetition-based scenario remains mutually beneficial and in line with each SC actor's strategic objectives.

The complementarity level thus sheds light on the caveat associated with coopetition-based scenarios. Specifically, on one side of this continuum (a high level of complementarity), the SC actors are "considerably different in ways that enable them to fit together well" (Wang & Busemeyer, 2015), whereas SC actors are more similar when establishing scenarios on the other end of the continuum (a low level of complementarity). For instance, Amazon and Shein, a Chinese online fast-fashion retailer, might find themselves in a scenario with a lower complementarity level. Their areas of interest (i.e., e-commerce) partly overlap and, subsequently, entail a relatively low level of complementarity. However, pursuing a common goal to utilise Amazon's established infrastructure (platform) better and add to multichannel fulfilment for Shein permitted the companies to work together despite their somewhat overlapping roles.

In essence, the RBV focuses on the use of resources needed for a SC actor to achieve competitive advantage (see, e.g., Barney & Arikan, 2005). The same resources must be leveraged to a varying extent by the actors in a coopetition-based scenario (Barney, 1991; Gnyawali & Park, 2009, 2011). Past research addressed criteria conceptualised to examine the uniqueness of a given SC actor's contribution (see, e.g., Bowman & Ambrosini, 2003). In line with the VRIN criteria, the unique contribution of SC actors can be determined according to how *valuable*, *rare*, and *inimitable* their resources and capabilities are. If the resources possessed by SC actors are difficult to replicate (i.e., inimitable), other actors will acknowledge the need to achieve a certain level of complementarity (i.e., resources and capabilities structuring). Although valuable resources and capabilities allow the actors to differentiate, the rarity of resources and capabilities leads to the need to bundle resources and capabilities among the cooperative SC actors to establish particular coopetition-based scenarios (see Table 1).

Finally, SC actors showcase their unique contributions in resources and capabilities leveraging for the joint creation of value. Given that some resources and capabilities are inimitable, yet access to them is essential to establish and develop a particular coopetition-based scenario, the understanding of the value must be refined continuously by the SC actors (Gligor et al., 2022). This allows the SC actors to enhance their understanding of the need for a certain

Table 1. Resources and capabilities orchestration of the supply chain (SC) actors.

Structuring	Assessment of SC actors' resources and capabilities needed for a given scenario
Bundling	Integration of resources and capabilities in the development of the scenario
Leveraging	Utilisation of bundled contributions to achieve resource advantage for jointly creating value

(adapted from Gligor et al., 2022).

scenario (i.e., structuring), bundle complementary resources and capabilities, and leverage those for a given superior joint value creation, which should be refined by the SC actors on an ongoing basis.

1.2 Lastingness in coopetition-based scenarios

Although research acknowledges the “quality of continuing” (i.e., lastingness) as a feature of coopetition (see, e.g., Czakon, 2010; Pattinson et al., 2018), it has remained somewhat generic, including with respect to the role of time (Bouncken et al., 2020; Crick, 2018). The existing body of knowledge classifies time-dependent coopetition as “coopetition situations” and “coopetition interactions” (see, e.g., Ricciardi et al., 2022). Our study aids in revealing the scenarios and corresponding interactions that appear on a continuum of lastingness. According to Gnyawali et al. (2016), some SC actors prefer short-term coopetition (e.g., alliances between competitors), whereas others invest in scenarios that entail the need to manage coopetitive ties (collaborative endeavours with an intention to jointly create value).

Building on insights provided by Gnyawali et al. (2016) concerning the diverse approaches SC actors take towards coopetition, it is imperative to consider the underpinnings and formalisation of such relationships. It is here that the inclusion of the temporal dimension, specifically, the lastingness of coopetition-based scenarios, can offer insights into the strategic orientation of SC actors. To foresee how SC actors are oriented to developing a particular scenario and how they might behave, the SC actors should take account of the strategic goals, the formalisation of the cooperation strategies, and the expected outcomes of such engagements (Bouncken et al., 2020). In particular, a long-term orientation for coopetition-based scenarios calls for SC actors to develop formal planning procedures to articulate and navigate the coopetition “dualism” (i.e., the simultaneous existence of cooperation and competition among the SC actors) inherent in the scenarios.

Accordingly, the formalisation of coopetition strategies, which encompasses the setting of clear objectives, goals, and metrics, serves not simply as a roadmap for navigating competitive tensions over a longer course of time but also as a behavioural guide for all actors involved. Such formalised strategies allow SC actors to be better equipped to handle the complexities and contradictions of the coopetition (Bouncken et al., 2020), assuring that particular coopetition-based scenarios contribute effectively to their strategic objectives and long-term success with desirable outcomes. Since coopetition is deemed a “variable-positive-sum game” (Okura, 2007), loss

avoidance entails the need for a mutually beneficial exchange in which the SC actors end up with similarly fortunate outcomes. It is here that game-theoretic reasoning provides an evolutionary approach for the scenarios of coopetition, where loss avoidance is vital for the SC actors (Camerer, 1997; Qi et al., 2015). Ultimately, such reasoning teaches how “niceness” in scenarios of coopetition is enabled with a higher level of lastingness (Heide & John, 1990; Howard, 1988).

Beyond justifying the need to manage and pursue the duration of coopetition-based scenarios, game-theoretic reasoning can predict behavioural dynamics in the interactions of SC actors based on analysis of the outcomes (i.e., the joint value created). This analytical lens helps by adding to the existing body of literature on the role of lastingness in coopetition. By applying game-theoretic reasoning, some additional contemplations are revealed in pursuing mutually beneficial exchanges (or not) in a given coopetition-based scenario.

From the game theory perspective, each SC actor can approach coopetition by avoiding or confronting a possible conflict of interest (Wolters & Schuller, 1997). Historically, conflicting interests among SC actors with overlapping roles caused adversarial relationships to be established, leading to scenarios with a lower level of lastingness (Qi et al., 2015; Wolters & Schuller, 1997). However, the essence of coopetition lies in interlocking SC actors in coopetition-based scenarios without “the shadow of the future” (Axelrod & Hamilton, 1981; Shubik, 1955). In fact, a greater level of lastingness is believed to be pivotal for scenarios in which SC actors aim to reinforce the ties within them (Colin et al., 2003; Kay, 1993). In contrast, a lower level of lastingness might entice SC actors to engage in misappropriation by shielding information and not revealing intentions in coopetition-based scenarios (Wolters & Schuller, 1997).

The scenarios can be established and developed based on “need” or “expectations” (Heide & John, 1990). For instance, scenarios with a lower lastingness level are believed to be put in place following a certain need to respond through coopetition among the SC actors. Yet, scenarios with a greater lastingness level are based on the SC actors’ expectations of the value arising from the scenarios (Zhao et al., 2020). SC actors that have continuously evolved coopetition-based scenarios may experience a “learning effect” (Wolters & Schuller, 1997; Zhao et al., 2020). Drawing on game-theoretic reasoning and its core idea of possible misappropriation, the role of lastingness in this context is investigated. In line with Hofstadter (1983), there is the idea that the greater the level of lastingness is, the better the SC actors are at steering away from misappropriation in a given scenario

(Hofstadter, 1983). Drawing from Hofstadter, the prolonged interactions of SC actors are revealed to foster an environment where the cooperative benefits outweigh the competitive instincts. This perspective is rooted in game-theoretic reasoning where SC actors anticipate future interactions and accordingly prioritise the maintaining of the coopetition-based scenarios over short-term gains. Nevertheless, game-theoretic reasoning suggests that in certain conditions (see, e.g., the inflection point) the SC actors might defect or adjust their strategies (Dal Bó & Fréchette, 2018).

Moreover, integrating game-theoretic insights with empirical evidence from Morschheuser et al. (2017) and Dahl (2014), it is observed that changes in SC actors' expectations and behaviours are not just a result of past experiences but also of strategic foresight. These insights enrich our understanding of coopetition by providing a mechanism for anticipating and managing the dynamic balance between cooperating for mutually beneficial outcomes and competing for individual competitive advantage (Bouncken et al., 2020), ultimately adding to the success of the coopetition-based scenarios.

2 Towards an integrative framework

The proposed framework classifies coopetition-based scenarios by their complementarity and lastingness. The scenario descriptions are formalised before the interactions based on potential resource orchestration (resource and capability structuring, bundling, and leveraging) that may shape the scenarios are presented. Alongside the scenario formalisation, vignettes are used to thoroughly demonstrate the interactions among the SC actors in certain coopetition-based scenarios, and the role of these scenarios in the SC's resilience (Chapters 2.1–2.4). Fig. 1 shows the scenarios derived from the framework.

Although management frameworks are inherently unfalsifiable (Budler & Trkman, 2019), it is important to gauge the value of frameworks in managerial practice. The focus group was thus composed of key purchasing and logistics managers who make decisions related to other SC actors (see Chapters 3.1 and 3.2 for more details). Those SC actors exploit their complementarities to a certain and varying level (see, e.g., Belderbos et al., 2004; Hani & Dagnino, 2020). In the scenarios set out below, the contributions of SC actors are acknowledged, and this allows the SC actors to act accordingly. In the scenario analyses, it is demonstrated how and to what extent compatible yet distinctly different resources and capabilities mandate the interactions between the actors (see, e.g., de Resende et al., 2018; Peng et al., 2018).

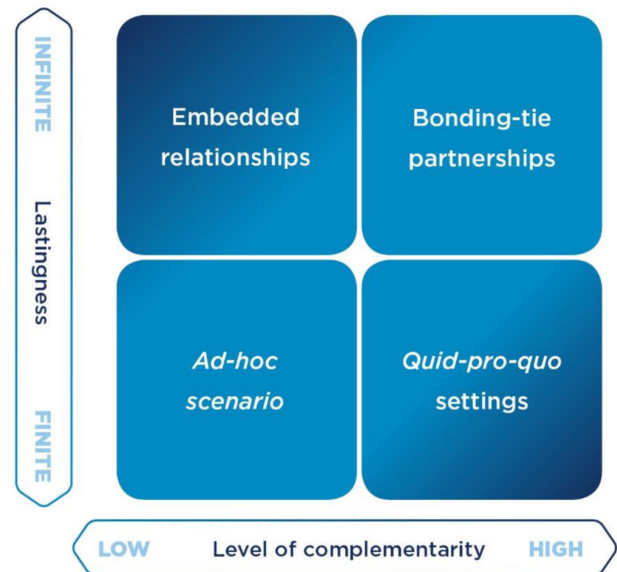


Fig. 1. Integrative framework for coopetition-based scenarios.

2.1 Embedded relationships

In embedded relationships, SC actors lack fit and have overlapping roles that must be managed properly (Kim & Parkhe, 2009). Before resource and capability structuring, SC actors preemptively assess the industry future and consider the development of possible relationships (see, e.g., Gligor et al., 2022; Greven et al., 2022). The overlapping roles cause the SC actors to view this coopetition-based scenario as a positive strategy equal to a certain threshold of bundling the resources and capabilities (Raza-Ullah et al., 2014). Whilst bundling resources and capabilities, SC actors pursue exploratory learning (i.e., an exploration strategy) to reach a given threshold, which should be established with two aims in mind. First, to prevent misappropriation while bundling excessive resources and capabilities beyond the inflection point (e.g., beyond the SC actors' needs). Second, to bundle sufficient resources and capabilities to see the future joint operations of the actors more clearly. Further, SC actors are advised to absorb the knowledge and technology skills from each other to further attenuate any tensions arising from the overlapping roles (Hamel et al., 1989). The absorbing of those skills by the SC actors is based on the expected greater level of lastingness of the embedded relationships.

Still, to ameliorate such tensions extensive efforts are suggested to strengthen the scenario and avoid the misappropriation of the SC actors (Kim & Parkhe, 2009). To hinder misappropriation, such efforts should aim at the effective use of complementary resources and capabilities for a given need or

expectation the SC actors have outside their similarity in the overlapping roles. With these “relational efforts” (see, e.g., [Shipilov & Li, 2012](#)), SC actors “embrace” overlapping roles and, subsequently, focus on the greater longevity of the scenario.

In reinforcing the scenario, the SC actors should especially focus on the distribution of joint benefits ([Balza-Franco et al., 2017](#)). In addition, knowledge exchange, proper communication, joint value creation, and combined efforts at building an embedded relationship contribute positively to increasing the resilience of the SC actors ([Massari & Giannoccaro, 2021](#)). Such reinforcement of the scenario is facilitated by ensuring stronger visibility, improved SC operations, and the greater adaptability of the SC actors (see, e.g., [Scholten & Schilder, 2015](#); [Scholten et al., 2020](#)). Ultimately, embedded relationships are believed to offer the “flexible structure and practices” (see, e.g., [Massari & Giannoccaro, 2021](#)) needed for achieving the resilience of SC actors. To illustrate, if a particular SC actor faces a disruption, the other actor possesses and leverages knowledge that can be used in pursuit of the overall goal of the scenario (i.e., joint benefits).

Since the SC actors’ complementarity is relatively low due to their overlapping roles in embedded relationships, the emphasis on an equal perception of the benefits arising from the scenario is advisable. The SC actors can facilitate mutually beneficial interactions with the fair distribution of the benefits by aligning their expectations in advance ([Kim & Parkhe, 2009](#); [Wu et al., 2010](#)). Finally, a third and common SC actor can provide strenuous efforts to attenuate tensions and connect the other two SC actors for a mutually beneficial scenario. The role of the third party (i.e., third SC actor) or the “intermediary” was recently emphasised in the development of coopetition-based scenarios (see, e.g., [Blanka & Traunmüller, 2020](#)). Specifically, the third SC actor is believed to be beneficial for avoiding the misappropriation of the SC actors in embedded relationships.

A typical example of embedded relationships may be found among ride-sharing businesses and car manufacturers. The latter have been going through a transformative process fuelled by environmental incentives, strict regulations, and changing consumer preferences. In light of the transformation, the car manufacturer Daimler established a ride-sharing service similar to Uber. Both SC actors more recently launched a programme for self-driving (autonomous) vehicles. Daimler and Uber eventually decided to collaborate despite their overlapping roles relating to self-driving vehicles within their business IT project as suggested by, for instance, [Alves and Biancarelli \(2020\)](#).

The two SC actors overcame the issues associated with the overlapping roles by absorbing each other’s knowledge. For instance, to develop their ride-sharing services with self-driving vehicles successfully, Daimler shared its expertise with designing and building cars, and the ride-sharing service helped establish a network of locations. The scenario was perceived as fair because both SC actors benefited, notwithstanding the overlapping roles. Ultimately, the mutually beneficial interactions prevented the emergence of self-stabilising strategies that leave one SC actor beleaguered ([Venkat Venkatraman, 2017](#)).

2.2 Bonding-tie partnerships

In *bonding-tie partnerships*, SC actors structure resources and capabilities in a way that places emphasis on a given scenario’s continuity. Thus, the exchange of talent and acquisition of each other’s intellectual capital is a viable option over the course of time. Bundling and leveraging complementary resources and capabilities can further strengthen the ties between each other ([Osarenkhoe, 2010](#)). For instance, the SC actors in a bonding-tie partnership can integrate knowledge exchange with the implementation of interorganisational information systems (see, e.g., [Gligor et al., 2022](#)). Leveraging a greater level of complementarity in this scenario calls for extensive joint efforts to enhance the value elicited ([Hani & Dagnino, 2020](#)). These efforts should also aim to account for the possibility of misappropriation whenever a greater degree of resources and capabilities is leveraged for a coopetition-based scenario.

To mitigate the risk of misappropriation, the SC actors can approach the establishing of a bonding-tie partnership by examining previously created coopetition-based scenarios. To pursue a common goal, the need to engage in a bonding-tie partnership should be addressed and the SC actors’ motives reconciled. In line with game-theoretic reasoning, the (a)symmetry of motives considerably affects the SC actors’ tactics, leads to diverging outcomes, and can induce the capability of SC actors to misappropriate ([Nasr et al., 2015](#)). However, as the expectations and behaviours of the SC actors can change over the course of time, the “reconciling” of the motives should be carried out continuously as a risk-mitigation strategy to avoid misappropriation and add to the longevity of a scenario. Further, past experiences between the SC actors can sometimes lead to rigidity, limiting the SC’s resilience by constraining the use of resources and learning, and prevent the formation of flexible practices between the actors ([Gernsheimer et al., 2024](#)).

The SC actors should focus on a common goal with the process of cocreating and eliciting the benefits of bonding-tie partnerships (Russo & Cesarani, 2017). Actors in a bonding-tie partnership should also elicit value in a way that they all end up equally fortunate (Salancik & Pfeffer, 1978). To illustrate, imagine two SC actors that had once competed to deliver enhanced performance for a common SC actor in the past (i.e., a previously established scenario). In line with Klinc and Turk (2019), it is argued here that the actors bundled industry-specific knowledge and technology-related capabilities while committing to common goals. In the case of a global manufacturer of household appliances and kitchenware headquartered in Slovenia, the common goal was established with a Japanese competitor mainly because of the complementarity in terms of possessing leading-edge knowledge of testing and control. The Japanese SC actor leveraged the resources and capabilities to make some process improvements and achieve operational resilience whilst enabling the Slovenian manufacturer to use its underutilised production line.

The Slovenian major appliance manufacturer first based the coopetition-based scenarios on several possible contingency plans (risk management), but the Japanese competitor/partner was concerned about antitrust issues. With the increasing continuity of the scenario, the capability to misappropriate was eventually diminished. Still, the Slovenian appliance manufacturer was not fully satisfied with the way the scenario had evolved. The joint use of production lines to increase the utilisation rate was more expensive than the Slovenian manufacturer had anticipated.

Moreover, the bonding-tie partnership established the exchange almost exclusively between the two actors alone and did not need to account for the ignition of coopetition among any other SC actors. However, bundling a greater level of resources and capabilities is a double-edged sword. On one hand, the rewards for SC actors' performance and resilience are greater. Yet, on the other, a greater fear of bundling is present as SC actors sense overreliance on their counterpart and the possibility of other SC actors gaining leverage on the value cocreated in the scenario (McGrath et al., 2019).

2.3 *Quid pro quo settings*

With a distinct set of roles and, consequently, contributions in the quid pro quo scenarios, SC actors can structure their resources and capabilities based on complementing each other's repertoire of offerings (Gnyawali & Park, 2011; Luo et al., 2007; Peng et al., 2012). In quid pro quo settings, SC actors initiate the

structuring phase by "*determining the worth of each actor's contribution*" (Du et al., 2006) and lean on mutual dependence to succeed and increase their resilience (Bengtsson & Kock, 2000; Massari & Giannoccaro, 2021; Mena et al., 2013). A high level of complementarity is essential in resource and capabilities bundling, together with the common expectations of mutually beneficial exchange. Shared and aligned expectations lower the probability of the SC actors misappropriating and make a scenario viable in the short term.

By way of example, two logistics service providers with a presence in European countries and aiming to offer a full array of logistics services are presented. When the first logistics services provider sought to expand its services to another country, it was unable to do so due to its lack of logistics knowledge and equipment. As a part of its contingency planning, the logistics services provider wanted to lower the risk exposure due to its inability to fulfil some customer requests (see, e.g., Bakshi & Kleindorfer, 2009). The second logistics provider possessed the knowledge and equipment to serve the customers of the first provider. A quid pro quo setting was established without informing other SC actors because the coopetition launched between the two actors did not affect the customers.

However, quid pro quo settings are short in duration and mostly limited to the SC's upstream (i.e., supply side)—for instance, to inbound transportation for manufacturers (Ritala et al., 2014; Walley, 2007)—whereas demand-side coopetitive settings seemingly rarely span beyond the customers (Sánchez-González & Herrera, 2014). Owing to expectations of the SC actor remaining "interlocked" for a shorter amount of time, competitive forces remain and can further facilitate defensive investments (i.e., the capability to misappropriate) of a given SC actor (Wolters & Schuller, 1997). By leveraging defensive investments, one SC actor starts to extort its counterpart (Press & Dyson, 2012). The extortionist exposed to a lower risk could thus finish the scenario better by choosing to misappropriate further. This possibility demotivates the other SC actor from participating in the coopetition-based scenario. Such risk exposure can be avoided or eliminated if the SC actors expect the coopetition-based scenarios to reoccur in the future (Axelrod & Hamilton, 1981; Howard, 1988), stressing the importance of aligned or changing expectations.

2.4 *Ad hoc scenarios*

SC actors join ad hoc scenarios for the sake of a predictable, tangible, and attainable common goal based on a certain need (i.e., a structuring stage). As

ad hoc scenarios are finite, SC actors bundle the resources seamlessly in order to establish the scenario without anticipation of long-lasting interactions and an evolving capability to misappropriate. SC actors can establish loosely coupled (ad hoc) scenarios to flexibly leverage the resources and capabilities with actors from various SCs (Williamson & De Meyer, 2012). Hence, SC actors in ad hoc scenarios can switch between other actors easily and possess coopetition-specific capabilities to “evolve, shape, and compose” a particular scenario to their choice of a common goal (Bengtsson & Raza-Ullah, 2016). For instance, a common goal may emerge following the need among electrical energy distributors to pursue a large joint purchase of electrical energy at a discounted price. In addition, frequent supply disruptions resulting in resource scarcities can force SC actors, especially those with limited “buffer” resources, to rethink their SC operations (Um & Han, 2021). As these SC actors are more exposed to risk events, they can bundle their resources, skills, and capabilities with another SC actor (e.g., a large enterprise) to better withstand supply disruptions induced by crises (see, e.g., Massari & Giannoccaro, 2021). This approach allows them to navigate through challenging times more effectively.

SC actors are deemed to sustain some level of interdependence effortlessly as they remain “interlocked” solely to leverage resources and capabilities for a common goal (Bouncken et al., 2015). Some dependence in ad hoc scenarios is established by identifying and leveraging the complementarity required to address the need that interlocked the actors. According to game-theoretic reasoning, these one-off (ad hoc) scenarios necessitate outcomes that can be agreed upon in advance by all SC actors (Saloner, 1991).

To illustrate, Intel and AMD joined forces to combat the surge of nVidia, a competitor that had become increasingly threatening to both. Intel started to coopete with AMD because Intel believed both SC actors were dynamic enough to redesign accordingly. Despite the overlapping roles of Intel and AMD in the semiconductor industry, they had the ability to coop-

erate efficiently while knowing how to remain fierce competitors in other domains (Moorhead, 2017). A focus on a common threat (nVidia) prevented Intel or AMD from choosing self-stabilising strategies while establishing and facilitating the scenario to reduce the joint risk exposure and improve their resilience. Finally, such scenarios represent a possible first stage of coopetition for SC actors (Mariani, 2007; Pattinson et al., 2018), for example, a foundation to develop into embedded relationships.

3 Methods

3.1 Data collection

To investigate the value of coopetition-based scenarios and the usefulness of the presented framework, a focus group with key informants from the Purchasing Association of Slovenia was established (Table 2). Choosing the focus group method for this exploration is line with the aim to gather experiences among SC actors and enhance managerial understandings of coopetition. Focus groups are particularly suited for exploring complex behaviours, motivations, and interactions (Morgan, 1996), allowing for the emergence of a thorough investigation into the value of coopetition, the usefulness of the proposed integrative framework, and its role in strategic decisions and communications among SC actors. The focus group method facilitates dynamic discussions and the exchange of views among the participants, revealing the different “types” of coopetition and their expected outcomes (i.e., joint benefits). The interactive setting of a focus group enables the participants to reflect on and articulate their experiences in relationships with competitors, customers, third parties, suppliers, and other SC actors with whom their roles might overlap, offering an opportunity to gauge the value of coopetition and the usefulness of the proposed integrative framework in a real-world setting.

Acknowledging the opportunity that gathering insights from the Purchasing Association of Slovenia

Table 2. The industries, key informants, and company sizes.

Participant code	Industry	Position	Company size (revenues in 2020, EUR millions)
A	Energy company	Executive Director of Procurement	3079
B	Automotive industry (manufacturer of caravans and motorhomes)	Executive Purchasing Director	422
C	Automotive industry (development supplier)	New Product Development Project Buyer	84
D	Automotive industry (development supplier)	Director of Procurement	84
E	Automotive industry (manufacturer of exhaust systems)	Purchasing Manager	154
F	Manufacturing of various products (e.g., heating)	Senior Strategic Procurement Manager	5800
G	Manufacturing of bathroom equipment	Strategic Purchasing Manager	42

could offer, I utilised my advisory board position there to identify potential participants. Considering the association's comprehensive understanding of Slovenia's broader purchasing and SC environment, the aim was to gather a group of professionals who could provide varied and in-depth perspectives on the viability and value of coopetition-based scenarios, the usefulness of the proposed framework, and the role of the framework in decision making and communication. The latter also addresses the recent call by Budler and Trkman (2019) to further investigate the role of management frameworks in both communication and decision making.

The key informants have worked at international flagship companies that have either a subsidiary or headquarters in Slovenia. Informants from the domains of purchasing, SC management, logistics, and adjunct domains (Table 1) were chosen specifically. The representatives were carefully selected from diverse, yet vital sectors in Slovenia (e.g., energy sector, automotive industry, manufacturing). This selection based on a convenience sample was intentional, aiming to capture a wide range of experiences and insights related to collaboration, competition, and potential coopetition.

However, in line with Kitzinger (1995) the aim was to establish a homogenous group (the participants are Purchasing Association of Slovenia members and work in the same or similar areas of interest). Consistent with DeLorme and Reid (1999), the goal was to choose key informants with whom I was familiar and vice versa. The fact that I am an advisory board member of the mentioned association meant I was able to previously establish strong ties with the informants. These stronger ties enabled me to establish and maintain an insightful discussion during the focus group and allowed for otherwise sensitive data to be revealed.

The usual procedure for establishing and conducting a focus group was followed. In line with Garrick et al. (2017) and Barbour (2018), who suggest 4 to 12 participants per focus group, eight representatives were invited to participate based on demographic data, employment duration, department and/or work position, work experience, and so on, among which seven responded. This number of participants ensured a proper balance between participant engagement and response diversity (Morgan, 1996). A conducive environment for the discussion was sought, one that would allow the participants to share their experiences and insights freely. The seven participants were informed about the focus group's mode of operation, guidelines, and the research topic before the discussion commenced. Participants were encouraged to discuss both the benefits and chal-

lenges of coopetition, including how it impacts collaboration, competition, and the overall performance of the SCs. The aim of this approach was to align practical experiences from the participants with the integrative framework, and altogether to yield valuable insights into the nuances of coopetition-based scenarios.

The role of a moderator in a focus group is to facilitate interactions and ask additional (follow-up) questions—illustrative examples are given in Table 2 (Bader & Rossi, 1998; Greenbaum, 1999; Mann, 2016). The data collection process commenced with a presentation of overlapping roles, SC actors, and coopetition. As the moderator, I introduced the present study and asked the participants to agree to the meeting being recorded. The questions were split into three sets. The first set focused on the value of coopetition, while the second revolved around the dimensions of the proposed integrative framework. Finally, the third set of questions examined the framework's usefulness for the strategic approach to coopetition and the way the framework can facilitate communication among the SC actors. I also acknowledged the participants' suggestions for improving the framework.

I led the discussion until I determined that data saturation had been reached. I also monitored the discussion, took notes, and asked additional questions when needed. The discussion lasted 80 minutes. Transcriptions of the focus group were prepared. Similar to the theoretical thematic analysis suggested by Braun and Clarke (2006) and Hudson et al. (2019), I analysed the transcription jointly and discussed their interpretations.

3.2 Data analysis

The participants' general opinion was that the proposed integrative framework for the analysis of coopetition-based scenarios could be used for establishing coopetition, leveraging complementary resources and capabilities, and enabling communication among SC actors. In fact, all participants agreed on the importance of pursuing complementarity while leveraging resources and capabilities. Participants recognised the value of coopetition and the integrative framework in facilitating the exchange of complementary resources among suppliers (i.e., resources and capabilities structuring and bundling), which is of critical importance for SC actors in addressing challenges associated with supply disruptions.

In terms of coopetition value, the participants revealed the inherent presence of coopetition in numerous situations. However, the focus group discussion showed the need for SC actors to carefully

Table 3. Excerpt of questions and responses in the focus group.

Key foci	Illustrative examples of questions	Relevant responses
Value of coopetition	How suitable is coopetition in your case?	<p><i>"I see numerous opportunities for short-term cooperative settings; however, to maintain cooperation in the longer term, I'd prefer to know more about the 'SC actors' and the 'broader impact' on performance."</i></p> <p>(Participant F)</p> <p><i>"We aim at engaging in relationships with competitors on the 'supply' and 'demand' sides. What is more, we see a necessity to facilitate collaborative relationships among our competing suppliers."</i></p> <p>(Participant G)</p>
Usefulness of the proposed framework (Lastingness and complementarity)	Do you agree that lastingness and complementarity are appropriate for classifying coopetition?	<p><i>"We aim at facilitating a mutually beneficial exchange among the suppliers for whom we are buyers. The exchange of complementary resources (e.g., key ingredients) is especially relevant amid stock-outs or disruptions."</i></p> <p>(Participant B)</p> <p><i>"I want to emphasise that I find the framework extremely easy to understand. Agreed, the dimensions also act as a good starting point to quantifying characteristics of the scenarios."</i></p> <p>(Participants C and G)</p>
The usefulness and improvements of the proposed framework (Decision making and communication)	How would you present a particular coopetition-based scenario to coworkers and/or other representatives of SC actors?	<p><i>"First of all, I see the framework as extremely useful for supporting decision making."</i></p> <p>(Participant G)</p> <p><i>"To us, it would improve communication and decision making on a strategic level; it looks very appropriate for use in our organisation."</i></p> <p>(Participant A)</p>

"balance" between collaboration and competition, pointing to paradoxical tensions and the possibility of misappropriation being involved in the development and maintenance of coopetition-based scenarios. Acknowledging the importance of engaging with the SCs of competitors, the participants articulated the potential value held by coopetition for fostering the resilience and flexibility of their SCs. Notably, the participants found the short-term coopetition-based scenarios to be more pragmatic in resources and capabilities structuring, bundling, and leveraging with their competitors. Nonetheless, the responses demonstrate the prevailing opinion that the ad hoc scenario is the most viable for their modes of operation (Table 3).

Among the joint ideas, the participants elaborated on further increasing the relevance and applicability of the mentioned framework (i.e., its usefulness). In fact, the role of the integrative framework in enhancing decision making and communication within organisations was highlighted, with participants stressing its value in strategic management (see Table 3 for more). As SC actors navigate the interfirm dynamics given the overlapping roles, the framework offered the actors a structured approach to identify and evaluate potential coopetition-based scenarios. The participants also saw the potential for applying the framework to counter the pertaining SC challenges (e.g., considering coopetition-based scenarios in contingency planning).

The participants would pursue quantifying the characteristics and outcomes of the scenarios, as well as the impact or power distribution among the SC actors entangled in a given scenario. Nevertheless, revealing the value of coopetition-based scenarios adds to their understanding of why and when SC actors engage in the scenarios and can facilitate communication among the actors. Unlike some other management tools (or frameworks), such as SWOT analysis and Kraljič's purchasing-portfolio matrix, that are commonly used by domain experts, the participants find my framework more relevant to the strategic decision making by C-level managers. By revealing the relevance for the executives, I offer the idea to enhance their understanding of collaborative relationships in various environments (see, e.g., O'Shannassy, 2016).

4 Discussion

This study suggests that it is imperative for SC actors to assess how ready they are to enter into coopetition-based scenarios (resource structuring) and consider the appropriateness of a particular scenario based on the (dis)similarities with other SC actors and the desired time horizon. The SC actors should understand both the current and potential future dependencies on shared resources and capabilities, while also identifying opportunities for learning. In addition, an intermediary (e.g., a national

chamber of commerce or an industry association) can also play an important role in facilitating collaboration between competing SC actors (see, e.g., [Blanka & Traunmüller, 2020](#)).

By organising internal workshops focused on analysing their mutual dependence (or independence), SC actors can better prepare for the complexities of coopetition-based scenarios and potentially avoid misappropriation over the course of time (see, e.g., [Massari & Giannoccaro, 2021](#)). Such workshops could equip SC actors with a thorough understanding of their counterparts and ensure a strategic fit that leverages mutual resources and capabilities while addressing potential risk exposure (e.g., knowledge spillover and hostile talent acquisition). Further, workshops with potential and existing SC actors to discuss shared goals and the strategies for achieving them can further solidify the scenarios.

However, it is important to note that unplanned interactions among the SC actors can lead to unexpected benefits that were not initially part of their strategic objectives. For example, the actors engaged in coopetition may discover new market opportunities, innovative products, or operational efficiencies purely by chance (see, e.g., [Kylänen & Rusko, 2011](#)). These so-called serendipitous outcomes can derive the value from different and unplanned interactions in coopetition-based scenarios, highlighting the importance of sensing and seizing unforeseen opportunities among the SC actors ([Balzano, 2022](#)). To remain prepared for such opportunities, SC actors are advised to cultivate an organisational culture that encourages experimentation, open communication, and collaboration beyond formal agreements ([Krajnović, 2022](#)). The SC actors could implement cross-functional teams, joint problem-solving workshops, and informal networking opportunities to enhance the likelihood of serendipitous discoveries ([Rusko, 2015](#)). Furthermore, understanding the conditions under which serendipity outcomes are more likely to occur can help the actors strategically position themselves to capture any unexpected benefits.

4.1 Managerial implications

While it has been shown that the selection of SC actors for coopetition-based scenarios demands a nuanced approach that chiefly considers two determinants (i.e., lastingness and level of complementarity), a range of objectives, organisational size, R&D investments, absorptive learning capacity, and cooperating or competing similarity should be considered by practitioners (see, e.g., [Greven et al., 2022](#)). Considering such relevant criteria will ensure that SC actors structure, bundle, and leverage their resources and

capabilities in a manner that is line with the adapted common interests and efforts. After all, the evolving nature of coopetition-based scenarios underscores the need for SC actors to adopt a flexible, yet principled approach to the management of a given scenario. This includes being prepared to adjust to shifts in the evolving goals of the SC actors, their behaviour, or the emergence of inflection points.

Furthermore, our participants deemed “alignment” in coopetition-based scenarios to be of paramount importance for SC actors seeking to maximise the value of coopetition. Ensuring that both SC actors share a similar orientation to the lastingness of a particular scenario can prevent misappropriation from occurring. Similarly, a keen focus on the level of complementarity between SC actors, not only in terms of resources, capabilities, but also strategic objectives, is pivotal. Such alignment will not only enhance the synergy within the coopetition-based scenarios but further mitigate the risks of misappropriation.

Finally, developing and managing a particular coopetition-based scenario effectively emerges as a critical pathway to achieving greater SC resilience (see, e.g., [Bouncken et al., 2020](#); [Massari & Giannoccaro, 2021](#)). This involves fostering an environment conducive to the mutual sharing of information and knowledge among SC actors. The use of knowledge-sharing platforms, where SC actors can communicate their data, actions, and best practices, is underscored as a practical approach to facilitate this sharing. Such platforms not only support the operationalisation of coopetition but also enhance the overall performance of the SC actors.

4.2 Theoretical contributions

The current study also makes a few theoretical contributions in relation to coopetition. First, by drawing on the RBV and game-theoretic reasoning, the study identifies some additional mechanisms (resources and capabilities structuring, bundling, and leveraging) for coopetition-based scenario development and management, the features of scenarios and corresponding interactions, and two dimensions that better depict how SC actors simultaneously compete and collaborate in SC networks where their roles overlap. While the mechanisms add to our understanding of coopetition dynamics, highlighting these two key dimensions for the scenarios captures the essence of how SC actors navigate coopetition.

Via the lens of operations management, the present study lays the groundwork for comprehending how coopetition-based scenarios impact SC operations and the pursuit of joint benefits, especially during a crisis, and for improving contingency planning. This

approach not only enriches the theoretical discourse on coopetition but also illustrates practical pathways for SC actors to manage the scenarios seamlessly, even amidst supply and business disruptions (see, e.g., Rouyre et al., 2024). The illustrative examples for the scenarios and the focus group discussion altogether reveal that SC actors not only leverage coopetition strategies for immediate gains but also benefit from the accumulated experiences and insights gained through past coopetition-based scenarios. Past experience facilitates seamless value creation and capture, stressing the importance of aligning SC actors' expectations with regard to the joint benefits.

The illustrative examples of scenarios demonstrate the potential held by coopetition-based scenarios for risk management at various stages in SC networks. The scenarios can be developed and maintained to ameliorate the incidence of disruptions and enhance SC resilience (see, e.g., El Baz & Ruel, 2021). Ultimately, the findings indicate the role played by coopetition in contingency planning and how coopetition-based scenarios can address risk exposure (e.g., resource scarcity), and entail desirable risk management practices (e.g., the utilisation of sufficient resources).

4.3 Future research

Future research could explore transitions between the scenarios and the corresponding evolution of unidentified interactions in these scenarios. It should conduct in-depth studies of particular scenarios and apply various sophisticated mathematical models to quantify scenario characteristics and SC actors, as suggested by the focus group participants, and to compute the scenario outcomes. Another possibility is to explore transitions between the coopetition-based scenarios, focusing on the evolution of neglected interactions and the capability to misappropriate. The interactions warrant rigorous analysis, for instance, with the use of advanced mathematical models. Such an approach would not only quantify the nuanced features of the scenarios but additionally assess their impact on SC actors more accurately.

The exploration of coopetition within SC networks calls for a refined theoretical lens, particularly integrating existing theories with the resource-advantage theory. The latter can offer deeper insights into how SC actors structure, bundle, and leverage their unique resources and capabilities in SC networks. Future research should aim to enhance the proposed integrative framework by incorporating more granular details about resource availability and SC actors' information-processing capabilities (see, e.g., Rai et al., 2023). This could shed light on how the ac-

tors navigate the paradoxical tensions in coopetition, especially in a crisis, to return to business-as-usual, bolster resilience and their strategic market positioning (see, e.g., El Baz & Ruel, 2021).

Future research could systematically examine the strategic behaviours and intentions that entice SC actors to develop and maintain coopetition-based scenarios. Extra attention should be paid to understanding how peripheral conditions such as firm size, age, and industry-specific pressures influence the configurations of interfirm learning and the capability to navigate power asymmetries in coopetition. Investigating these additional determinants can reveal how SC actors construct and manage cooperative barriers to safeguard their knowledge and technology, ensuring joint benefits without compromising individual competitive advantage.

The interactions among SC actors in coopetition settings pose unique challenges and opportunities for value cocreation. Future research should explore the mechanisms via which SC actors communicate the coopetition strategy internally, manage the inherent risks, and integrate new resources to drive innovation (see, e.g., Wang & Chen, 2022). This includes studying the governance structures that facilitate trust and leadership among coopeting actors, possibly through the application of hierarchical models. Examining how the LTO orientation influences risk-taking behaviour and competition intensity in coopetition-based scenarios could provide valuable insights to help design more effective "coopetition strategies." In addition, future research should explore the role of serendipity in coopetition-based scenarios, particularly focusing on how SC actors can harness serendipitous interactions and outcomes to gain a competitive advantage (see e.g., Balzano, 2022). As discussed by Carayannis et al. (2016), SC actors with scarce resources could utilise serendipitous discoveries in presence of coopetition to end up better off. Specifically, researchers could examine the mechanisms by which SC actors expand their SC networks as networks have been identified as significant sources of serendipitous opportunities (Meyer & Skak, 2002). Such examination could also involve developing methods to identify and categorise these outcomes, examining the conditions that foster them, and understanding how SC actors can create environments that enhance serendipity outcomes.

Finally, it is worth investigating how coopetition in general and my framework in particular differ when in an intra-industry setting or when coopetition and framework move beyond the boundaries of the existing industries (see, e.g., Chennamaneni & Desiraju, 2011). The participants from the focus group confirmed the need to incorporate market- and

industry-specific characteristics into my framework. In line with [de Resende et al. \(2018\)](#), I encourage interest in investigating the market- and industry-specific characteristics that would further evolve the integrative framework of coopetition-based scenarios.

5 Concluding remarks and limitations of the study

This study provides an integrative framework aimed at deepening the understanding of “coopetition types,” namely, coopetition-based scenarios, responding to recent calls for a more detailed examination of “coopetition structures” (see, e.g., [Clark, 2021](#); [Ritala & Sainio, 2014](#)). By analysing the impact of resource complementarity and the duration of cooperative relationships (lastingness) among SC actors, the study identifies some specific features of coopetition-based scenarios and the interactions that arise. These insights not only clarify how coopetition can spark “value-creating territories” in light of the overlapping roles of the SC actors, but also illustrate the management of the inherent challenges within such territories (i.e., coopetition-based scenarios) ([Bonel & Rocco, 2007](#); [Choi & Valikangas, 2001](#); [Gernsheimer et al., 2024](#)). Grounded in the postulates from the RBV and game-theoretic reasoning, the integrative framework accentuates the strategic need for SC actors, particularly those with limited resources, to pursue cooperative relationships to bolster their resource base and SC resilience (see, e.g., [Shishodia et al., 2023](#)).

The examination into coopetition-based scenarios also shows the constraints SC actors are faced with, adding to the existing body of literature on competitive dynamics and the significance of “network relationship quality” ([Dyer et al., 2018](#)). In particular, resource and capability structuring, bundling, and leveraging were used to better demonstrate the development and maintenance of coopetition-based scenarios. Further, the introduction of the capability to misappropriate and its relation to a given scenario helps managers avoid difficulties while developing and maintaining a particular scenario, especially in the long term. The scenarios also illustrate the evolving nature of coopetition, where cooperative and competitive interactions enter into a dynamic interplay over time. Ultimately, coopetition-based scenarios offer a strategy for overcoming barriers in developing SC network structures. By outlining specific scenarios and their interactions that can emerge, the study demonstrates coopetition’s potential to deliver joint benefits, improve contingency planning, and enhance SC resilience (see, e.g., [Massari & Giannoccaro, 2021](#)).

This study also has some limitations. The proposed integrative framework developed in this study, while offering enhanced understanding of coopetition-based scenarios, is inherently non-falsifiable and arbitrary to some extent. While integrative in its nature, the framework lacks delineation by, for instance, industry and company size, which potentially limits its applicability for certain industry sectors and SC actors. In addition, the absence of context such as industry or company size may overlook the segmentation of scenarios by specific strategic intentions and behaviours of SC actors that could influence the outcomes of coopetition-based scenarios.

The study uses and advances the RBV and game-theoretic reasoning to provide a rationale for the integrative framework. However, other perspectives, such as the eclectic paradigm and stakeholder theory, could enrich the nuanced understanding of the scenarios. Further, examining the strategic behaviours and intentions of SC actors within these scenarios would reveal the cumbersome interplay of cooperation and competition, influenced by industry pressures and the strategic orientation towards other actors. Addressing these dimensions in future research could uncover the mechanisms through which SC actors construct cooperative barriers and strategise within coopetition frameworks, advancing the discourse on coopetition strategies and their implications for SC actors.

In the empirical context, the present study relied on focus groups, exclusively conducted in Slovenia with representatives of international companies. Conducted within the confines of a single association and national setting, the research amalgamates data across diverse industry sectors without differentiation. This aggregation, while simplifying the analysis, may mask potential variances in coopetition dynamics emerging from specific product or service characteristics, organisational attributes, and the aims of SC actors. While a qualitative approach enabled in-depth insights to be gained, the convenient sample of participants from Slovenia also narrows the diversity of insights and may affect the generalisability of the findings across varied geographic and cultural contexts. Addressing these limitations could provide more context-based insights and add to the usefulness of the integrative framework for practitioners in various industry sectors.

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References

- Acciarini, C., Brunetta, F., & Boccadelli, P. (2020). Cognitive biases and decision-making strategies in times of change: A systematic literature review. *Management Decision*, 59(3), 638–652. <https://doi.org/10.1108/MD-07-2019-1006>
- Alves, E. E. C., & Biancarelli, A. M. (2020). Financial cooperation initiatives in Latin America: Conditions of origins, subsistence and eventual vanishing. *Economics and Business Review*, 6(4), 51–71. <https://doi.org/10.18559/eb.2020.4.4>
- Amata, R., Dagnino, G. B., Minà, A., & Picone, P. M. (2022). Managing coopetition in diversified firms: Insights from a qualitative case study. *Long Range Planning*, 55(4), Article 102128. <https://doi.org/10.1016/j.lrp.2021.102128>
- Axelrod, R., & Hamilton, W. D. (1981). The evolution of cooperation. *Science*, 211(4489), 1390–1396. <https://doi.org/10.1126/science.7466396>
- Bader, G. E., & Rossi, C. A. (1998). *Focus groups: A step-by-step guide*. Bader Group.
- Bakshi, N., & Kleindorfer, P. (2009). Co-opetition and investment for supply-chain resilience. *Production and Operations Management*, 18(6), 583–603. <https://doi.org/10.1111/j.1937-5956.2009.01031.x>
- Balza-Franco, V., Paternina-Arboleda, C. D., Cantillo, V., Macea, L. F., & Ramírez-Ríos, D. G. (2017). A collaborative supply chain model for non-for-profit networks based on cooperative game theory. *International Journal of Logistics Systems and Management*, 26(4), 475–496. <https://doi.org/10.1504/IJLSM.2017.082614>
- Balzano, M. (2022). Serendipity in management studies: a literature review and future research directions. *Management Decision*, 60(13), 130–152.
- Bankvall, L., Dubois, A., & Lind, F. (2017). Conceptualizing business models in industrial networks. *Industrial Marketing Management*, 60, 196–203. <https://doi.org/10.1016/j.indmarman.2016.04.006>
- Barbour, R. (2018). *Doing focus groups* (2nd ed.). Sage.
- Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of Management*, 17(1), 99–120. <https://doi.org/10.1177/014920639101700108>
- Barney, J. B., & Arian, A. M. (2005). The resource-based view: Origins and implications. In M. A. Hitt, R. E. Freeman, & J. S. Harrison (Eds.), *The Blackwell handbook of strategic management* (pp. 123–182). Blackwell. <https://doi.org/10.1111/b.9780631218616.2006.00006.x>
- Belderbos, R., Carree, M., Diederer, B., Lokshin, B., & Veugelers, R. (2004). Heterogeneity in R&D cooperation strategies. *International Journal of Industrial Organization*, 22(8–9), 1237–1263. <https://doi.org/10.1016/j.ijindorg.2004.08.001>
- Bengtsson, M., & Kock, S. (2000). “Coopetition” in business networks—To cooperate and compete simultaneously. *Industrial Marketing Management*, 29(5), 411–426. [https://doi.org/10.1016/S0019-8501\(99\)00067-X](https://doi.org/10.1016/S0019-8501(99)00067-X)
- Bengtsson, M., & Raza-Ullah, T. (2016). A systematic review of research on coopetition: Toward a multilevel understanding. *Industrial Marketing Management*, 57, 23–39. <https://doi.org/10.1016/j.indmarman.2016.05.003>
- Bier, T., Lange, A., & Glock, C. H. (2020). Methods for mitigating disruptions in complex supply chain structures: A systematic literature review. *International Journal of Production Research*, 58(6), 1835–1856. <https://doi.org/10.1080/00207543.2019.1687954>
- Bjerke, B., & Hultman, C. (2004). *Entrepreneurial marketing: The growth of small firms in the new economic era*. Edward Elgar Publishing.
- Blanka, C., & Traunmüller, V. (2020). Blind date? Intermediaries as matchmakers on the way to start-up–industry coopetition. *Industrial Marketing Management*, 90, 1–13. <https://doi.org/10.1016/j.indmarman.2020.05.031>
- Bonel, E., & Rocco, E. (2007). Coopeting to survive; surviving coopetition. *International Studies of Management & Organization*, 37(2), 70–96. <https://doi.org/10.2753/IMO0020-8825370204>
- Börekçi, D. Y., Rofcanin, Y., Heras, M. L., & Berber, A. (2021). Deconstructing organizational resilience: A multiple-case study. *Journal of Management & Organization*, 27(3), 422–441. <https://doi.org/10.1017/jmo.2018.72>
- Bouncken, R. B., Fredrich, V., & Gudergan, S. (2022). Alliance management and innovation under uncertainty. *Journal of Management & Organization*, 28(3), 540–563. <https://doi.org/10.1017/jmo.2022.34>
- Bouncken, R. B., Fredrich, V., & Kraus, S. (2020). Configurations of firm-level value capture in coopetition. *Long Range Planning*, 53(1), Article 101869. <https://doi.org/10.1016/j.lrp.2019.02.002>
- Bouncken, R. B., Gast, J., Kraus, S., & Bogers, M. (2015). Coopetition: A systematic review, synthesis, and future research directions. *Review of Managerial Science*, 9(3), 577–601. <https://doi.org/10.1007/s11846-015-0168-6>
- Bowman, C., & Ambrosini, V. (2003). How the resource-based and the dynamic capability views of the firm inform corporate-level strategy. *British Journal of Management*, 14(4), 289–303. <https://doi.org/10.1111/j.1467-8551.2003.00380.x>
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101. <https://doi.org/10.1191/1478088706qp0630a>
- Budler, M., & Trkman, P. (2019). The nature of management frameworks. *Journal of Management & Organization*, 29(2), 173–190. <https://doi.org/10.1017/jmo.2019.83>
- Budler, M., Quiroga, B. F., & Trkman, P. (2024). A review of supply chain transparency research: Antecedents, technologies, types, and outcomes. *Journal of Business Logistics*, 45(1), Article e12368. <https://doi.org/10.1111/jbl.12368>
- Camerer, C. F. (1997). Progress in behavioral game theory. *Journal of Economic Perspectives*, 11(4), 167–188. <https://doi.org/10.1257/jep.11.4.167>
- Carayannis, E. G., Provance, M., & Grigoroudis, E. (2016). Entrepreneurship ecosystems: An agent-based simulation approach. *The Journal of Technology Transfer*, 41(3), 631–653. <https://doi.org/10.1007/s10961-016-9466-7>
- Chang, C. W., Chiang, D. M., & Pai, F. Y. (2012). Cooperative strategy in supply chain networks. *Industrial Marketing Management*, 41(7), 1114–1124. <https://doi.org/10.1016/j.indmarman.2012.04.011>
- Chennamaneni, P. R., & Desiraju, R. (2011). Comarketing alliances: Should you contract on actions or outcomes? *Management Science*, 57(4), 752–762. <https://doi.org/10.1287/mnsc.1100.1297>
- Chetty, S. K., & Wilson, H. I. (2003). Collaborating with competitors to acquire resources. *International Business Review*, 12(1), 61–81. [https://doi.org/10.1016/S0969-5931\(02\)00088-4](https://doi.org/10.1016/S0969-5931(02)00088-4)
- Choi, D., & Valikangas, L. (2001). Patterns of strategy innovation. *European Management Journal*, 19(4), 424–429. [https://doi.org/10.1016/S0263-2373\(01\)00045-7](https://doi.org/10.1016/S0263-2373(01)00045-7)
- Choi, T. Y., & Wu, Z. (2009a). Taking the leap from dyads to triads: Buyer–supplier relationships in supply networks. *Journal of Purchasing and Supply Management*, 15(4), 263–266. <https://doi.org/10.1016/j.pursup.2009.08.003>
- Choi, T. Y., & Wu, Z. (2009b). Triads in supply networks: Theorizing buyer–supplier–supplier relationships. *Journal of Supply Chain Management*, 45(1), 8–25. <https://doi.org/10.1111/j.1745-493X.2009.03151.x>
- Clark, C. (2021). *The roots of rural capitalism*. Cornell University Press.

- Colin, C. H., Huaning, L., & Barry, D. (2003). The paradox of co-operation and competition in strategic alliances: Towards a multi-paradigm approach. *Management Research News*, 26(1), 1–20. <https://doi.org/10.1108/01409170310783376>
- Crick, D., & Crick, J. M. (2016). Coopetition at the sports marketing/entrepreneurship interface: A case study of a Taekwondo organisation. *Marketing Intelligence & Planning*, 34(2), 169–187. <https://doi.org/10.1108/MIP-09-2014-0174>
- Crick, J. M. (2018). The facets, antecedents and consequences of coopetition: An entrepreneurial marketing perspective. *Qualitative Market Research: An International Journal*, 21(2), 253–272. <https://doi.org/10.1108/QMR-11-2016-0109>
- Crick, J. M., & Crick, D. (2020). Coopetition and COVID-19: Collaborative business-to-business marketing strategies in a pandemic crisis. *Industrial Marketing Management*, 88, 206–213. <https://doi.org/10.1016/j.indmarman.2020.05.016>
- Crick, J. M., Crick, D., & Chaudhry, S. (2022). The dark-side of coopetition: It's not what you say, but the way that you do it. *Journal of Strategic Marketing*, 30(1), 22–44. <https://doi.org/10.1080/0965254X.2019.1642936>
- Crick, J. M., Crick, D., & Chaudhry, S. (2023). Staying alive: Coopetition and competitor oriented behaviour from a pre- to post COVID-19 pandemic era. *Industrial Marketing Management*, 113, 58–73. <https://doi.org/10.1016/j.indmarman.2023.05.017>
- Czakon, W. (2010). Emerging coopetition: An empirical investigation of coopetition as inter-organizational relationship instability. In S. Yami, S. Castaldo, & G. Battista Dagnino (Eds.), *Coopetition: Winning strategies for the 21st century* (pp. 58–73). Edward Elgar Publishing. <https://doi.org/10.4337/9781849807241.00011>
- Czakon, W., Klimas, P., & Mariani, M. (2020). Behavioral antecedents of coopetition: A synthesis and measurement scale. *Long Range Planning*, 53(1), Article 101875. <https://doi.org/10.1016/j.lrp.2019.03.001>
- Dahl, J. (2014). Conceptualizing coopetition as a process: An outline of change in cooperative and competitive interactions. *Industrial Marketing Management*, 43(2), 272–279. <https://doi.org/10.1016/j.indmarman.2013.12.002>
- Dal Bó, P., & Fréchette, G. R. (2018). On the determinants of cooperation in infinitely repeated games: A survey. *Journal of Economic Literature*, 56(1), 60–114. <https://doi.org/10.1257/jel.20160980>
- Das, T. K., & Teng, B. S. (2000). A resource-based theory of strategic alliances. *Journal of Management*, 26(1), 31–61. [https://doi.org/10.1016/S0149-2063\(99\)00037-9](https://doi.org/10.1016/S0149-2063(99)00037-9)
- DeLorme, D. E., & Reid, L. N. (1999). Moviegoers' experiences and interpretations of brands in films revisited. *Journal of Advertising*, 28(2), 71–95. <https://doi.org/10.1080/00913367.1999.10673584>
- de Resende, L. M. M., Volski, I., Betim, L. M., de Carvalho, G. D. G., De Barros, R., & Senger, F. P. (2018). Critical success factors in coopetition: Evidence on a business network. *Industrial Marketing Management*, 68, 177–187. <https://doi.org/10.1016/j.indmarman.2017.10.013>
- Du, L., Hu, Q., & Liu, L. (2006). A profit sharing scheme for a two-firm joint venture. *European Journal of Operational Research*, 170(1), 277–292. <https://doi.org/10.1016/j.ejor.2004.06.025>
- Dyer, J. H., Singh, H., & Hesterly, W. (2018). The relational view revisited: A dynamic perspective on value creation and value capture. *Strategic Management Journal*, 39(12), 3140–3162. <https://doi.org/10.1002/smj.2785>
- El Baz, J., & Ruel, S. (2021). Can supply chain risk management practices mitigate the disruption impacts on supply chains' resilience and robustness? Evidence from an empirical survey in a COVID-19 outbreak era. *International Journal of Production Economics*, 233, Article 107972. <https://doi.org/10.1016/j.ijpe.2020.107972>
- Friedl, G., & Wagner, S. M. (2016). Supplier development investments in a triadic setting. *IEEE Transactions on Engineering Management*, 63(2), 136–150. <https://doi.org/10.1109/TEM.2016.2517121>
- Garrick, A., Mak, A. S., Cathcart, S., Winwood, P. C., Bakker, A. B., & Lushington, K. (2017). Teachers' priorities for change in Australian schools to support staff well-being. *The Asia-Pacific Education Researcher*, 26(3), 117–126. <https://doi.org/10.1007/s40299-017-0332-7>
- Gernsheimer, O., Kanbach, D. K., & Gast, J. (2021). Coopetition research—A systematic literature review on recent accomplishments and trajectories. *Industrial Marketing Management*, 96, 113–134. <https://doi.org/10.1016/j.indmarman.2021.05.001>
- Gernsheimer, O., Kanbach, D. K., Gast, J., & Le Roy, F. (2024). Managing paradoxical tensions to initiate coopetition between MNEs: The rise of coopetition formation teams. *Industrial Marketing Management*, 118, 148–174. <https://doi.org/10.1016/j.indmarman.2024.02.006>
- Gligor, D. M., Davis-Sramek, B., Tan, A., Vitale, A., Russo, I., Golgeci, I., & Wan, X. (2022). Utilizing blockchain technology for supply chain transparency: A resource orchestration perspective. *Journal of Business Logistics*, 43(1), 140–159. <https://doi.org/10.1111/jbl.12287>
- Gnyawali, D. R., Madhavan, R., He, J., & Bengtsson, M. (2016). The competition–cooperation paradox in inter-firm relationships: A conceptual framework. *Industrial Marketing Management*, 53, 7–18. <https://doi.org/10.1016/j.indmarman.2015.11.014>
- Gnyawali, D. R., & Park, B.-J. (2009). Co-opetition and technological innovation in small and medium-sized enterprises: A multilevel conceptual model. *Journal of Small Business Management*, 47(3), 308–330. <https://doi.org/10.1111/j.1540-627X.2009.00273.x>
- Gnyawali, D. R., & Park, B.-J. (2011). Co-opetition between giants: Collaboration with competitors for technological innovation. *Research Policy*, 40(5), 650–663. <https://doi.org/10.1016/j.respol.2011.01.009>
- Gnyawali, D. R., & Ryan Charleton, T. (2018). Nuances in the interplay of competition and cooperation: Towards a theory of coopetition. *Journal of Management*, 44(7), 2511–2534. <https://doi.org/10.1177/0149206318788945>
- Greco, M., Campagna, M., Cricelli, L., Grimaldi, M., & Strazzullo, S. (2022). COVID-19-related innovations: A study on underlying motivations and inter-organizational collaboration. *Industrial Marketing Management*, 106, 58–70. <https://doi.org/10.1016/j.indmarman.2022.07.014>
- Greenbaum, T. L. (1999). *Moderating focus groups: A practical guide for group facilitation*. Sage Publications.
- Greven, A., Fischer-Kreer, D., Müller, J., & Brettel, M. (2022). Inter-firm coopetition: The role of a firm's long-term orientation. *Industrial Marketing Management*, 106, 47–57. <https://doi.org/10.1016/j.indmarman.2022.08.002>
- Hamel, G., Doz, Y. L., & Prahalad, C. K. (1989). Collaborate with your competitors and win. *Harvard Business Review*, 67(1), 133–139.
- Hamel, G., & Prahalad, C. K. (2013). *Competing for the future*. Harvard Business Press.
- Hani, M., & Dagnino, G. B. (2020). Global network coopetition, firm innovation and value creation. *Journal of Business & Industrial Marketing*, 36(11), 1962–1974. <https://doi.org/10.1108/JBIM-05-2019-0268>
- Harrison, E. F., & Pelletier, M. A. (2000). The essence of management decision. *Management Decision*, 38(7), 462–470. <https://doi.org/10.1108/00251740010373476>
- Heide, J. B., & John, G. (1990). Alliances in industrial purchasing: The determinants of joint action in buyer-supplier relationships. *Journal of Marketing Research*, 27(1), 24–36. <https://doi.org/10.1177/002224379002700103>
- Heilig, L., Lalla-Ruiz, E., & Voß, S. (2017). Digital transformation in maritime ports: Analysis and a game theoretic framework. *Netnomics: Economic Research and Electronic Networking*, 18(2), 227–254. <https://doi.org/10.1007/s11066-017-9122-x>
- Hofstadter, D. R. (1983). The prisoner's dilemma computer tournaments and the evolution of cooperation. *Scientific American*, 248(5), 14–20.
- Howard, J. V. (1988). Cooperation in the prisoner's dilemma. *Theory and Decision*, 24(3), 203–213. <https://doi.org/10.1007/BF00148954>
- Huang, H. C., & Chu, W. (2015). Antecedents and consequences of co-opetition strategies in small and medium-sized accounting

- agencies. *Journal of Management & Organization*, 21(6), 812–834. <https://doi.org/10.1017/jmo.2014.82>
- Hudson, S., Matson-Barkat, S., Pallamin, N., & Jegou, G. (2019). With or without you? Interaction and immersion in a virtual reality experience. *Journal of Business Research*, 100, 459–468. <https://doi.org/10.1016/j.jbusres.2018.10.062>
- Jacobides, M. G., Cennamo, C., & Gawer, A. (2018). Towards a theory of ecosystems. *Strategic Management Journal*, 39(8), 2255–2276. <https://doi.org/10.1002/smj.2904>
- Kay, J. (1993). *Foundations of corporate success*. Oxford University Press.
- Kim, J., & Parkhe, A. (2009). Competing and cooperating similarity in global strategic alliances: An exploratory examination. *British Journal of Management*, 20(3), 363–376. <https://doi.org/10.1111/j.1467-8551.2008.00580.x>
- Kitzinger, J. (1995). Qualitative research: Introducing focus groups. *BMJ*, 311(7000), 299–302. <https://doi.org/10.1136/bmj.311.7000.299>
- Klinc, R., & Turk, Ž. (2019). Construction 4.0—Digital transformation of one of the oldest industries. *Economic and Business Review*, 21(3), 393–410. <https://doi.org/10.15458/eb.92>
- Krajnović, A. (2022). Serendipity management as a model for fostering organizational creativity in the post-COVID period. *Journal of Accounting and Management*, 12(2), 67–88.
- Kylänen, M., & Rusko, R. (2011). Unintentional coopetition in the service industries: The case of Pyhä-Luosto tourism destination in the Finnish Lapland. *European Management Journal*, 29(3), 193–205. <https://doi.org/10.1016/j.emj.2010.10.006>
- Li, M. E. I., & Choi, T. Y. (2009). Triads in services outsourcing: Bridge, bridge decay and bridge transfer. *Journal of Supply Chain Management*, 45(3), 27–39. <https://doi.org/10.1111/j.1745-493X.2009.03169.x>
- Luo, X., Rindfleisch, A., & Tse, D. K. (2007). Working with rivals: The impact of competitor alliances on financial performance. *Journal of Marketing Research*, 44(1), 73–83. <https://doi.org/10.1509/jmkr.44.1.073>
- Mann, S. (2016). *The research interview*. Palgrave Macmillan. <https://doi.org/10.1057/9781137353368>
- Manzhynski, S., & Figge, F. (2020). Coopetition for sustainability: Between organizational benefit and societal good. *Business Strategy and the Environment*, 29(3), 827–837. <https://doi.org/10.1002/bse.2400>
- Mariani, M. M. (2007). Coopetition as an emergent strategy: Empirical evidence from an Italian consortium of opera houses. *International Studies of Management & Organization*, 37(2), 97–126. <https://doi.org/10.2753/IMO0020-8825370205>
- Martínez-Noya, A., & Narula, R. (2018). What more can we learn from R&D alliances? A review and research agenda. *BRQ Business Research Quarterly*, 21(3), 195–212. <https://doi.org/10.1016/j.brq.2018.04.001>
- Massari, G. F., & Giannoccaro, I. (2021). Investigating the effect of horizontal competition on supply chain resilience in complex and turbulent environments. *International Journal of Production Economics*, 237, Article 108150. <https://doi.org/10.1016/j.ijpe.2021.108150>
- McGrath, H., O'Toole, T., & Canning, L. (2019). Coopetition: A fundamental feature of entrepreneurial firms' collaborative dynamics. *Journal of Business & Industrial Marketing*, 34(7), 1555–1569. <https://doi.org/10.1108/JBIM-10-2018-0287>
- Meena, A., Dhir, S., & Sushil, S. (2023). A review of coopetition and future research agenda. *Journal of Business & Industrial Marketing*, 38(1), 118–136. <https://doi.org/10.1108/JBIM-09-2021-0414>
- Mena, C., Humphries, A., & Choi, T. Y. (2013). Toward a theory of multi-tier supply chain management. *Journal of Supply Chain Management*, 49(2), 58–77. <https://doi.org/10.1111/jscm.12003>
- Meyer, K., & Skak, A. (2002). Networks, serendipity and SME entry into Eastern Europe. *European Management Journal*, 20(2), 179–188. [https://doi.org/10.1016/S0263-2373\(02\)00028-2](https://doi.org/10.1016/S0263-2373(02)00028-2)
- Moorhead, P. (2017, November 6). Rivals Intel and AMD team up on PC chips to battle Nvidia. *The Wall Street Journal*. <https://www.wsj.com/articles/rivals-intel-and-amd-team-up-on-pc-chips-to-battle-nvidia-1509966064>
- Morgan, D. L. (1996). Focus groups. *Annual Review of Sociology*, 22(1), 129–152. <https://doi.org/10.1146/annurev.soc.22.1.129>
- Morschheuser, B., Riar, M., Hamari, J., & Maedche, A. (2017). How games induce cooperation? A study on the relationship between game features and we-intentions in an augmented reality game. *Computers in Human Behavior*, 77, 169–183. <https://doi.org/10.1016/j.chb.2017.08.026>
- Nasr, E. S., Kilgour, M. D., & Noori, H. (2015). Strategizing nice-ness in co-opetition: The case of knowledge exchange in supply chain innovation projects. *European Journal of Operational Research*, 244(3), 845–854. <https://doi.org/10.1016/j.ejor.2015.02.011>
- Oke, E. Y. (2020). *Coopetition as an emerging organisational strategy for supply chain resilience: An exploratory study of the UKCS oil and gas sector* [Doctoral dissertation, Robert Gordon University]. OpenAIR@RGU. <https://doi.org/10.48526/rgu-wt-1447315>
- Okura, M. (2007). Coopetitive strategies of Japanese insurance firms a game-theory approach. *International Studies of Management & Organization*, 37(2), 53–69. <https://doi.org/10.2753/IMO0020-8825370203>
- Osarenkhoe, A. (2010). A study of inter-firm dynamics between competition and cooperation—A coopetition strategy. *Journal of Database Marketing & Customer Strategy Management*, 17(3), 201–221. <https://doi.org/10.1057/dbm.2010.23>
- O'Shannassy, T. F. (2016). Strategic intent: The literature, the construct and its role in predicting organization performance. *Journal of Management & Organization*, 22(5), 583–598. <https://doi.org/10.1017/jmo.2015.46>
- Pattinson, S., Nicholson, J., & Lindgreen, A. (2018). Emergent coopetition from a sensemaking perspective: A multi-level analysis. *Industrial Marketing Management*, 68, 25–35. <https://doi.org/10.1016/j.indmarman.2017.09.005>
- Peng, T. J. A., Pike, S., Yang, J. C. H., & Roos, G. (2012). Is cooperation with competitors a good idea? An example in practice. *British Journal of Management*, 23(4), 532–560. <https://doi.org/10.1111/j.1467-8551.2011.00781.x>
- Peng, T. J. A., Yen, M. H., & Bourne, M. (2018). How rival partners compete based on cooperation? *Long Range Planning*, 51(2), 351–383. <https://doi.org/10.1016/j.lrp.2017.10.003>
- Pihlajamaa, M., Kaipia, R., Aminoff, A., & Tanskanen, K. (2019). How to stimulate supplier innovation? Insights from a multiple case study. *Journal of Purchasing and Supply Management*, 25(3), Article 100536. <https://doi.org/10.1016/j.pursup.2019.05.001>
- Press, W. H., & Dyson, F. J. (2012). Iterated Prisoner's Dilemma contains strategies that dominate any evolutionary opponent. *Proceedings of the National Academy of Sciences*, 109(26), 10409–10413. <https://doi.org/10.1073/pnas.1206569109>
- Qi, Y., Ni, W., & Shi, K. (2015). Game theoretic analysis of one manufacturer two retailer supply chain with customer market search. *International Journal of Production Economics*, 164, 57–64. <https://doi.org/10.1016/j.ijpe.2015.02.005>
- Qin, X., Liu, Z., & Tian, L. (2020). The strategic analysis of logistics service sharing in an e-commerce platform. *Omega*, 92, Article 102153. <https://doi.org/10.1016/j.omega.2019.102153>
- Rajala, A., & Tidström, A. (2017). A multilevel perspective on organizational buying behavior in coopetition—An exploratory case study. *Journal of Purchasing and Supply Management*, 23(3), 202–210. <https://doi.org/10.1016/j.pursup.2017.03.002>
- Rai, R., Gnyawali, D. R., & Bhatt, H. (2023). Walking the tightrope: Coopetition capability construct and its role in value creation. *Journal of Management*, 49(7), 2354–2386. <https://doi.org/10.1177/01492063221107873>
- Raza-Ullah, T., Bengtsson, M., & Kock, S. (2014). The coopetition paradox and tension in coopetition at multiple levels. *Industrial Marketing Management*, 43(2), 189–198. <https://doi.org/10.1016/j.indmarman.2013.11.001>
- Ricciardi, F., Zardini, A., Czakon, W., Rossignoli, C., & Kraus, S. (2022). Revisiting the cooperation–competition paradox: A configurational approach to short-and long-term coopetition performance in business networks. *European Management Journal*, 40(3), 320–331. <https://doi.org/10.1016/j.emj.2021.07.002>

- Riquelme-Medina, M., Stevenson, M., Barrales-Molina, V., & Llorens-Montes, F. J. (2022). Coopetition in business Ecosystems: The key role of absorptive capacity and supply chain agility. *Journal of Business Research*, 146, 464–476. <https://doi.org/10.1016/j.jbusres.2022.03.071>
- Ritala, P., Golnam, A., & Wegmann, A. (2014). Coopetition-based business models: The case of Amazon.com. *Industrial Marketing Management*, 43(2), 236–249. <https://doi.org/10.1016/j.indmarman.2013.11.005>
- Ritala, P., & Sainio, L. M. (2014). Coopetition for radical innovation: Technology, market and business-model perspectives. *Technology Analysis & Strategic Management*, 26(2), 155–169. <https://doi.org/10.1080/09537325.2013.850476>
- Rouyre, A., Fernandez, A. S., & Bruyaka, O. (2024). Big problems require large collective actions: Managing multilateral coopetition in strategic innovation networks. *Technovation*, 132, Article 102968. <https://doi.org/10.1016/j.technovation.2024.102968>
- Rusko, R. (2015). Coopetition for organizations. In M. Khosrow-Pour (Ed.), *Encyclopedia of Information Science and Technology* (3rd ed., Vol. 1, pp. 576–586). IGI Global. <https://doi.org/10.4018/978-1-4666-5888-2.ch055>
- Russo, M., & Cesarani, M. (2017). Strategic alliance success factors: A literature review on alliance lifecycle. *International Journal of Business Administration*, 8(3), 1–9. <https://doi.org/10.5430/ijba.v8n3p1>
- Salancik, G. R., & Pfeffer, J. (1978). A social information processing approach to job attitudes and task design. *Administrative Science Quarterly*, 23(2), 224–253. <https://doi.org/10.2307/2392563>
- Saloner, G. (1991). Modeling, game theory, and strategic management. *Strategic Management Journal*, 12(S2), 119–136. <https://doi.org/10.1002/smj.4250121009>
- Sánchez-González, G., & Herrera, L. (2014). Effects of customer cooperation on knowledge generation activities and innovation results of firms. *BRQ Business Research Quarterly*, 17(4), 292–302. <https://doi.org/10.1016/j.brq.2013.11.002>
- Scholten, K., & Schilder, S. (2015). The role of collaboration in supply chain resilience. *Supply Chain Management: An International Journal*, 20(4), 471–484. <https://doi.org/10.1108/SCM-11-2014-0386>
- Scholten, K., Stevenson, M., & van Donk, D. P. (2020). Dealing with the unpredictable: Supply chain resilience [Editorial]. *International Journal of Operations & Production Management*, 40(1), 1–10. <https://doi.org/10.1108/IJOPM-01-2020-789>
- SeyedEsfahani, M. M., Biazaran, M., & Gharakhani, M. (2011). A game theoretic approach to coordinate pricing and vertical co-op advertising in manufacturer–retailer supply chains. *European Journal of Operational Research*, 211(2), 263–273. <https://doi.org/10.1016/j.ejor.2010.11.014>
- Shipilov, A. V., & Li, S. X. (2012). The missing link: The effect of customers on the formation of relationships among producers in the multiplex triads. *Organization Science*, 23(2), 472–491. <https://doi.org/10.1287/orsc.1100.0568>
- Shishodia, A., Sharma, R., Rajesh, R., & Munim, Z. H. (2023). Supply chain resilience: A review, conceptual framework and future research. *The International Journal of Logistics Management*, 34(4), 879–908. <https://doi.org/10.1108/IJLM-03-2021-0169>
- Shubik, M. (1955). The uses of game theory in management science. *Management Science*, 2(1), 40–54. <https://doi.org/10.1287/mnsc.2.1.40>
- Trkman, P., Budler, M., & Groznik, A. (2015). A business model approach to supply chain management. *Supply Chain Management: An International Journal*, 20(6), 587–602. <https://doi.org/10.1108/SCM-06-2015-0219>
- Um, J., & Han, N. (2021). Understanding the relationships between global supply chain risk and supply chain resilience: The role of mitigating strategies. *Supply Chain Management: An International Journal*, 26(2), 240–255. <https://doi.org/10.1108/SCM-06-2020-0248>
- Venkat Venkatraman, N. (2017, January 31). *Co-opetition in automotive industry*. LinkedIn. <https://www.linkedin.com/pulse/co-opetition-automotive-industry-n-venkat-venkatraman/>
- Walley, K. (2007). Coopetition: An introduction to the subject and an agenda for research. *International Studies of Management & Organization*, 37(2), 11–31. <https://doi.org/10.2753/IMO0020-8825370201>
- Wang, M. C., & Chen, J. S. (2022). Driving coopetition strategy to service innovation: The moderating role of coopetition recognition. *Review of Managerial Science*, 16(5), 1471–1501. <https://doi.org/10.1007/s11846-021-00488-3>
- Wang, Z., & Bussemeyer, J. (2015). Reintroducing the concept of complementarity into psychology. *Frontiers in Psychology*, 6, Article 1822. <https://doi.org/10.3389/fpsyg.2015.01822>
- Wichmann, B. K., Carter, C. R., Kaufmann, L., & Wilson, J. R. (2016). Making environmental SCM initiatives work—Moving beyond the dyad to gain affective commitment. *Journal of Supply Chain Management*, 52(1), 21–40. <https://doi.org/10.1111/jscm.12095>
- Williamson, P. J., & De Meyer, A. (2012). Ecosystem advantage: How to successfully harness the power of partners. *California Management Review*, 55(1), 24–46. <https://doi.org/10.1525/cmr.2012.55.1.24>
- Wolters, H., & Schuller, F. (1997). Explaining supplier-buyer partnerships: A dynamic game theory approach. *European Journal of Purchasing & Supply Management*, 3(3), 155–164. [https://doi.org/10.1016/S0969-7012\(97\)00011-7](https://doi.org/10.1016/S0969-7012(97)00011-7)
- Wu, Z., Choi, T. Y., & Rungtusanatham, M. J. (2010). Supplier–supplier relationships in buyer–supplier–supplier triads: Implications for supplier performance. *Journal of Operations Management*, 28(2), 115–123. <https://doi.org/10.1016/j.jom.2009.09.002>
- Yadav, N., Kumar, R., & Malik, A. (2022). Global developments in coopetition research: A bibliometric analysis of research articles published between 2010 and 2020. *Journal of Business Research*, 145, 495–508. <https://doi.org/10.1016/j.jbusres.2022.03.005>
- Zakrzewska-Bielawska, A. (2013). Coopetition in high-technology firms: Resource-based determinants. In A. Zaharim & R. Gouveia Rodrigues (Eds.), *Recent Advances in Management, Marketing & Finances: Proceedings of the 7th WSEAS International Conference on Management, Marketing and Finances (MMF 13)* (pp. 51–56). WSEAS Press.
- Zhang, J., & Frazier, G. V. (2011). Strategic alliance via co-opetition: Supply chain partnership with a competitor. *Decision Support Systems*, 51(4), 853–863. <https://doi.org/10.1016/j.dss.2011.02.004>
- Zhao, J., Wei, J., Xi, X., & Wang, S. (2020). Firms' heterogeneity, relationship embeddedness, and innovation development in competitive alliances. *Industrial Marketing Management*, 91, 114–128. <https://doi.org/10.1016/j.indmarman.2020.08.021>