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RAPPORT
REPORT

Cooperating with competitors

An exploratory case study of cooperative relationships between competing firms in NCE Finance Innovation

Ida Jødahl
Vanessa Vance

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Preface

This thesis was written as a final part of our Master of Science in Economics and Business Administration at the Norwegian School of Economics. The main objective of this thesis is to extend current literature on the topic of coopetition. More precisely, this involves contributing with research on how a neutral third party can manage coopetitive relationships. Coopetition is a topic of common interest, which we believe to be highly relevant in the years to come.

The process of writing this thesis has been rewarding, although challenging at times. The writing process has given us a greater insight into the field of strategic cooperation as well as providing us with new knowledge about the concept of clusters.

First of all, we would like to thank the participants in our study for devoting their time to contribute with valuable insight. We would also like to devote a special thanks to our main contacts at NCE Finance Innovation for giving us valuable input and supporting us along the way. We also want to express gratitude to our supervisor, Christine Meyer, who with great encouragement and enthusiasm has given us valuable and constructive feedback throughout the process. Her knowledge and expertise have been essential, and we are incredibly thankful for her support.

Norwegian School of Economics

Bergen, December 2021

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1.0 Introduction

Firms are today constantly facing comprehensive and rapid changes in the environment, especially in terms of technology, digitalization and increased global competition (Nesse, 2018). As a result, the demand for innovation increases making it even more challenging to create and capture value (Nesse, 2018). In the process of encountering these challenges, firms have realised the importance of building networks of interdependencies with rival firms, enhancing performance through strategic cooperation (Lado, Boyd & Hanlon, 1997; Brandenburger & Nalebuff, 2021). The concept of cooperating with rival firms has been coined "*coopetition*".

Coopetition is rapidly becoming a key success factor in the contemporary business environment and has gained momentum in recent years due to its potential benefits (Gnyawali & Park, 2009; Cygler & Sroka, 2017; Luo, Rindfleisch & Tse, 2007; Lado et al., 1997). In fact, empirical studies show that over 50 percent of strategic alliances today occur between firms within the same industry or between rival firms (Gnyawali & Park, 2009). Building inter-firm relationships with direct competitors can enhance productivity and stimulate growth and innovation in a region (Cojocaru & Ionescu, 2016). Moreover, potential benefits of engaging in such partnerships include access to complementary resources, sharing risks and uncertainties, reducing costs and achieving synergy effects, which in turn can increase the firms' competitive advantage (Ritala & Hurmelinna-Laukkanen, 2009; Quintana-Garcia & Benavides-Velasco, 2004; Walley, 2007; Gnyawali & Park, 2009). However, coopetitive relationships also entail several risks and challenges, such as asymmetry, opportunism and loss of autonomy (Cygler, Sroka, Solesvik & Debkowska, 2018; Cygler & Sroka, 2017; Lado et al., 1997). Due to the complex and interdependent nature of such inter-firm relationships, coopetition creates paradoxical tensions that require special attention and must be managed accordingly.

Although coopetition is a popular topic for research, empirical studies on how to manage coopetition is still quite limited. Moreover, existing literature is rather limited in providing sufficient data on how coopetition works in practice in a particular industry and among a set of firms. The purpose of this thesis is therefore to address the gaps in literature and contribute with findings on the topic of coopetition. Hence, our qualitative exploratory case study investigates the following research question:

"Which mechanisms are relevant in order for a neutral third party to manage coopetitive relationships?"

In the attempt to answer our research question, we will study different mechanisms that can be used in order to manage coopetition. We will also find it necessary to explore potential benefits and risks of coopetition in order to create a deeper understanding of how to manage the challenges and tensions that may arise in this context. The empirical setting for our research is the Norwegian fintech cluster *"NCE Finance Innovation"* (NCE FI). We will use NCE FI as a context to study the coopetitive relationships that emerge within this cluster, in addition to studying the role of NCE FI in managing coopetition.

A regional cluster is a geographical concentration of firms in a particular industry interconnected through a wide range of relationships with customers, competitors, distributors, financial partners and others (Porter, 1998). The structure of clusters can vary by location or industry and be a subject of multiple interpretations (Martin & Sunley, 2003; Cojocaru & Ionescu, 2016). One of the main elements of a cluster is the simultaneous existence of cooperation and competition between different entities (Porter, 1985). Clusters are therefore increasingly becoming an important part of how many firms choose to cooperate and compete simultaneously in order to enhance innovation and economic growth. As such, clusters can serve as a platform for developing and fostering multilateral coopetitive relationships, and therefore provide an interesting context for studying coopetition.

1.1 Structure

Our thesis starts by presenting relevant literature on the topic of coopetition. This includes a presentation of theories that explain the concept, followed by literature on potential benefits and risks in addition to theory on how to manage coopetition. The literature chapter is followed by an introduction to the research setting and the contextual background for our case study. Furthermore, the methodology chapter will describe our research design as well as discuss the quality of our research and ethical considerations. In the result chapter, we will present the findings of our study, which will further be discussed in relation to relevant literature in the discussion chapter. The discussion of the results will include thoughts on how our study supports, extends, contributes and/or contradicts the literature presented. The last chapter contains conclusions for the study and thoughts on how our findings answer the research question. Moreover, we will suggest ideas for future research on this topic as well as present our thoughts on the practical implications of our study.

2.0 Literature review

In this section we will review existing literature on the topic of coopetition. This includes exploring theories describing the concept as well as reviewing potential benefits and risks. Ultimately, we will present literature on how to manage the challenges and tensions that may arise in this context.

2.1 Competition

Competition occurs when firms in an industry, producing similar products or services, compete by deploying core competencies in order to offer superior products to customers relative to competitors, and achieve an advantageous position in the market (Porter, 1985). This paradigm has traditionally been perceived as the driving force for building competitive advantage and is mainly triggered by conflicting and rivalling relationships between firms in an industry (Lado et al., 1997; Porter, 1990; Bengtsson & Kock, 2000).

Competition strategy has dominated the strategic management field because of its ability to generate economic efficiency, where "*winners*" are those able to utilize scarce resources more efficiently than others (Lado et al., 1997). This traditional strategy can therefore be explained as a win-lose game, where a firm's success comes at the expense of its rivals (Brandenburger & Nalebuff, 1996). The result of this is often what is called a zero-sum game, where one firm's gain is equivalent to another's loss.

With reference to traditional microeconomics, it is desirable to facilitate competition between companies in an industry to drive down prices and increase quality (Barney, 1986). This is due to external pressure from customers and the market in general, and the continuing race to deliver the best products and services. Furthermore, competitive behaviour might reduce transaction costs due to increased efficiency in economic exchanges (Lado et al., 1997). An increase in efficiency is crucial in order to stay ahead of competitors and obtain the best positions in the market. However, by solely focusing on achieving an advantageous position in the market through competition, firms might ignore opportunities possibly realized through cooperation (Kanter, 1994).

2.2 Cooperation

In contrast to the competition paradigm, the cooperative paradigm suggests that firms can enhance performance through engaging in networks of interdependencies (Lado et al., 1997). The interdependent relationships are based on strategic cooperation between firms that work together with the goal of deriving mutual benefits. In other words, creating added value and "*expanding the pie"* (Lado et al., 1997). The attention towards cooperation has increased sufficiently in recent years due to the effects of facilitating win-win situations by creating alliances and networks with other firms (Haugland, 1996; Brandenburger & Nalebuff, 1996). Cooperation allows firms to specialize in their core activities and at the same time have access to other necessary resources (Jorde & Teece, 1989; Brandenburger & Nalebuff, 2021). As a result, an increasing number of firms are realizing the benefits of cooperation, especially when their own resources and competences are not sufficient enough to develop competitive advantages.

Cooperation and competition have traditionally been treated as separate strategies describing inter-firm relationships (Bouncken, Gast, Kraus & Bogers, 2015), and there are conflicting arguments concerning whether the competition or the cooperation paradigm has the most impact on firm performance. However, the two paradigms have limitations and only illustrate a partial slice of reality as they fail to grasp the entire picture of the actual inter-firm interdependencies (Padula & Dagnino, 2007; Lado et al., 1997). The competition paradigm does not acknowledge the positive outcomes of establishing linkages with external partners, and the cooperation paradigm treats competition as a negative influence due to potential spillover effects. Competition theorists argue that cooperation is a market imperfection (Bouncken et al., 2015), while cooperation theorists argue that the competitive perspective underestimates the importance of cooperation (Brandenburger & Nalebuff, 1996). With competition opening up globally and products becoming more complex, firms will have to acquire and pursue both competitive and cooperative strategies simultaneously to achieve success (Coy, 2006; Luo et al., 2007; Jorde & Teece, 1989; Lado et al., 1997; Nesse, 2018).

2.3 Coopetition

As an attempt to combine the competition and the cooperation paradigm, the concept of coopetition emerged. This concept refers to the situation where firms cooperate to create value and share risks and uncertainties that may arise from the external environment, while at the same time competing in other areas of activity, still remaining competitors (Cygler & Sroka, 2017).

Most scholars seem to agree that the term "*coopetition*" was first introduced by Raymond Noorda in the early 1980s (Luo et al., 2007; Walley, 2007; Cygler & Sroka, 2017). Though introduced at this time, the concept of coopetition did not gain momentum until Brandenburger and Nalebuff explored and defined the topic of inter-firm relationships and alliances between competitors in their book "*Co-opetition*" in 1996 (Bouncken et al., 2015).

There are many ways to define the concept of coopetition. A broader definition describes the concept as a value net consisting of suppliers, customers, competitors and complementors (Brandenburger & Nalebuff, 1996). In accordance with the broader view of coopetition, the concept can be defined as: "*the paradoxical relationship between two or more actors simultaneously involved in cooperative and competitive interactions, regardless of whether their relationship is horizontal or vertical"* (Bengtsson & Kock, 2014). However, scholars argue that if coopetition is to be defined simply as the co-existence of cooperation and competition, any cooperative relationship could be described as being coopetitive (Bengtsson & Kock, 2014). Hence, we adopt a narrower approach to the definition of coopetition.

A narrow definition of the concept refers to a value chain perspective where coopetition is defined as a relationship between direct competitors (Luo et al., 2007; Padula & Dagnino, 2007). Luo et al. (2007) defines coopetition in a narrow sense as: "*the simultaneous cooperation and competition between two or more rivals"*. Because we are studying coopetition on an inter-firm level of analysis, we adopt the narrow definition proposed by Luo et al. (2007) in our research.

Coopetition, as a multifaceted and peculiar concept of research, has drawn increased attention in recent years (Cygler & Sroka, 2017). However, despite gaining momentum in the academic literature, coopetition is still a relatively unexplored phenomenon (Cygler & Sroka, 2017). Scholars argue that literature on this topic is incomplete because theory attempting to explain and describe coopetition is fractured and lacks coherence (Walley, 2007; Bengtsson, Eriksson & Wincent, 2010; Cygler & Sroka, 2017). This might be explained by the fact that the concept of coopetition encompasses both theories on competition and cooperation, in other words two paradoxical concepts.

The most prominent theoretical concepts used in interpreting coopetition strategy are the resource-based view (RBV), game theory, transaction cost theory (Lado et al., 1997; Quintana-Garcia & Benavides-Velasco, 2004; Cygler & Sroka, 2017) and network theory (Gnyawali & Park, 2009). RBV is highly recognised in the field of strategic management and supplies a rationale for viewing organizational competence as the main driver for achieving competitive advantage (Lado et al., 1997; Barney, 1991). Game theory explains firm behaviour associated with inter-firm relationships (Lado et al., 1997), while transaction cost theory explains the rationale for forming inter-firm relationships. Network theory explains the linkages between firms and how mutual sharing of knowledge and learning can facilitate innovation in an industry (Quintana-Garcia & Benavides-Velasco, 2004). Therefore, in order to understand the concept of coopetition, it is essential to become acquainted with these theories.

2.4 Resource-based view

RBV provides an internally focused view on how firms can build sustained competitive advantage by acquiring unique resources which allow the firm to deliver products or services to customers that are superior to what its competitors offer (Barney, 1991; Porter, 1985). According to Barney (1991) having unique resources entails having resources that are valuable, rare and difficult to imitate. Barney (1991) further distinguishes between intangible and tangible assets, where intangible assets are resources which are difficult for competitors to imitate due to causal complexity. Because these types of key resources are minimally mobile and imitable, they also have the highest potential to generate competitive advantage and therefore make out the most important strategic resources in a firm (Barney, 1991).

Non-proprietary tacit knowledge is an intangible resource which is unique, relatively immobile and difficult to imitate, and therefore, according to Barney (1991) a central source for sustained competitive advantage. Due to its immobility and inimitability, knowledge is difficult to acquire and relatively time consuming to develop. Hence, engaging in coopetitive relationships with firms that possess valuable knowledge in order to obtain competitive advantage, is one of the main drivers for coopetition (Gnyawali & Park, 2009; Bouncken & Kraus, 2013). Additionally, scholars suggest that engaging in coopetitive relationships allows for partnering firms to establish a common knowledge base using the firms' expertise and experience which in turn has an effect on firm performance (Quintana-Garcia & Benavides-Velasco, 2004).

Because developing and leveraging resources is a key goal of coopetition, RBV is a highly relevant theory describing the concept. The theory explains how firms, through coopetitive relationships with competitors, can gain access to complementary and strategic resources otherwise difficult to acquire in the market. Consequently, access to complementary resources can generate benefits resulting from the synergy of sharing joint resources which in turn can enhance innovation processes. Hence, when a firm is lacking necessary resources to enhance operation processes, its competitive advantage may rest on its tacit and inimitable coopetitive relationships with, and the success of, other players in the industry (Quintana-Garcia & Benavides-Velasco, 2004). As such, firms can seek coopetitive players to supplement shortage of resources (Quintana-Garcia & Benavides-Velasco, 2004). The concept of coopetition therefore involves finding complementarity in the resources from other players to enhance all parties' competitive advantage in the market. Thus, RBV explains how coopetition strategy seeks to expand market opportunity rather than foster competition among players in the industry for a market of a fixed size.

2.5 Game theory

The concept of coopetition was studied further by Brandenburger and Nalebuff (1996) in their work on game theory. Because coopetition refers to firms creating benefits and gaining competitive advantages through simultaneous cooperation and competition, developing an understanding of the logic of value creation and value appropriation through game theory is essential. As such, game theory provides another useful lens for investigating the dynamic picture of the inter-firm interaction processes and is therefore one of the most prominent approaches to coopetition (Lado et al., 1997).

The famous prisoner's dilemma illustrates the concept of game theory, where the main concern for the involved players is how to divide a fixed pie in such a way as to maximize self-interest (Brandenburger and Nalebuff, 1996). Consequently, the players involved can choose to cooperate or compete with, or defect from the other player which leads to several combinations of actions (Quintina-Garcia & Benavides-Velasco, 2004; Nesse, 2018). Brandenburger and Nalebuff (1996) explain how firms can obtain benefits by avoiding mutually destructive competition by changing the players, the rules and the scope of the game. Because it is difficult to eliminate competitors, having a win-win approach is the most effective way to enlarge the pie and in turn, obtain a bigger slice (Brandenburger and Nalebuff, 1996; Nesse, 2018). Hence, cooperating with competitors to seek out opportunities to create new values, achieve synergy effects and make a positive-sum game is essential in coopetition strategy (Brandenburger & Nalebuff, 1996; Brandenburger & Nalebuff, 2021).

With reference to game theory, competition is referred to as a win-lose game and cooperation is referred to as a win-win game. By comparison to these two strategies, scholars have referred to coopetition as a win-win-win strategy (Walley, 2007). The third "*win*" implies that the coopetitive relationship between two firms will provide benefits through value creation for the firms involved as well as providing benefits for the consumers by producing better products and services (Walley, 2007). Engaging in inter-firm coopetitive relationships therefore involves cooperating with competitors to create value by developing new products, subsequently competing to capture the value created. Hence, game theory has a substantial value in understanding the paradoxical and complex inter-firm interaction between cooperation and competition.

2.6 Transaction cost theory

Transaction cost theory is a concept widely used by coopetition scholars as it helps to understand the rationale for forming inter-firm relationships (Coase, 1937). The theory states that each type of transaction between firms in a market leads to costs of monitoring, controlling and managing, and according to Jones and Hill (1988) the main sources to transaction costs are uncertainty, complexity, opportunism, limited access to information and bureaucratic costs. The main objective for the firm is therefore to minimize transaction costs of exchanging resources in the environment (Jones, 2013), for example by establishing coopetitive relationships with rival firms.

Transaction cost economists argue that one of the reasons why firms engage in coopetitive relationships is to acquire *"tacit knowledge"* (Von Krogh, Ichijo & Nonaka, 2000; Quintana-Garcia & Benavides-Velasco, 2004). Tacit knowledge is otherwise difficult to acquire in the market because it is tied to skills, individual perceptions, rules of thumb and intuition. By establishing coopetitive relationships with rival firms that possess valuable tacit knowledge, firms can access resources and at the same time keep the transaction costs at a minimum. More knowledge will also reduce the possibility of resource misallocation because firms can avoid sub-optimal decisions and thus increase the return associated with the resources (Jones & Hill, 1988). As such, based on the transaction cost approach, coopetition aims to meet the objective of the individual firms, and will be successful if the value of the collective outcomes outweighs opportunity costs, and if the allocation of both is fair (Jarillo, 1988).

Despite the advantages aforementioned, transaction cost theorists claim that coopetition is a risky strategy because competitors might have incentives to behave opportunistically (Quintana-Garcia & Benavides-Velasco, 2004). Because protecting valuable know-hows can be difficult in a coopetitive relationship (Quintana-Garcia & Benavides-Velasco, 2004), transaction cost theorists claim that the possibility of failure is higher when the firms are direct competitors (Bresser, 1988; Kogut, 1998). This is due to the fact that balancing cooperation and competition is challenging because incentives to act opportunistically can motivate actions that undermine cooperative agreements (Quintana-Garcia & Benavides-Velasco, 2004).

2.7 Network theory

Network theory is helpful in understanding how firms can access resources externally (Gnyawali & Park, 2009). The theory explains inter-firm linkages and how mutual sharing of knowledge and learning can facilitate innovation in an industry (Powell, Koput & Doerr, 1996). As such, network theory is essential in understanding the concept of coopetition.

In order to encounter the comprehensive and rapid changes in the environment and meet the stringent demands for complex solutions, it is essential for firms to build relationships with external partners, such as competitors (Powell et al., 1996). As an extension of RBV, network theory explains that a strong network is essential if firms want to acquire new, important knowledge and gain access to crucial complementary resources in order to tackle external pressure and gain competitive advantage. Hence, by collaborating with competitors, firms can create economies of scale, mitigate risks and leverage resources together (Morris, Kocak & Özer, 2007).

Even though firms are expected to be more precautious when entering into coopetitive relationships with rivals, building such a network will enable an advantageous position in the market due to market commonality and resource similarity (Gnyawali & Madhavan, 2001). Hence, network-based resources can be used to aggressively pursue competitive opportunities. This will further benefit the customers through earlier access to technology and information compared to the firms working individually (Gnyawali, He & Madhavan, 2006).

2.8 Benefits of coopetition

Based on the theories presented, scholars have pointed out several advantages of engaging in coopetitive relationships (Gnyawali & Park 2009; Roig-Tierno, Kraus & Cruz, 2018; Quintana-Garcia & Benavides-Velasco, 2004; Ritala & Hurmelinna-Laukkanen, 2009; Kanter, 1994). Bouncken, Fredrich, Ritala and Kraus (2018) and Nesse (2018) argue that coopetition can facilitate product innovation and efficiency, while other scholars point out the importance of coopetition in order to cope with dynamic markets (Roig-Tierno et al., 2018), demanding customers (Smit, 2010) and new, challenging market powers. By cooperating and competing simultaneously, firms can share resources, capabilities and risks and ultimately enhance their performance (Gnyawali & Park, 2009). In the following, these benefits will be elaborated on with reference to existing literature.

2.8.1 Access to complementary resources

With reference to RBV, sharing complementary and strategic resources through establishing coopetitive relationships can generate benefits resulting from the synergies of sharing joint resources (Cygler & Sroka, 2017). Through coopetition, firms have the possibility to access, use and acquire new, relevant knowledge and capabilities by sharing resources, which in turn can reduce transaction costs (Quintana-Garcia & Benavides-Velasco, 2004). Because firms that are direct competitors share market commonality and resource similarity, they are likely to possess resources that are directly relevant to each other. This includes having a similar knowledge base, facing the same market conditions, having to meet the same customer needs and solving similar issues concerning uncertainty (Ritala & Hurmelinna-Laukkanen, 2009). Hence, gaining access to complementary resources from rival firms can contribute to enhancing and increasing technological diversity and innovation (Quintana-Garcia & Benavides-Velasco, 2004). However, in order to accomplish successful coopetitive relationships, an important criterion is that all parties contribute (Kanter, 1994). If this is a common understanding among the participating firms, it will also incentivise further sharing of resources.

Gaining access to complementary resources can enhance the firms' innovation capacity resulting in new technologies and products of better quality (Ritala & Huemelinna-Laukkanen, 2009). Research actually suggests that coopetitive relationships result in more radical product development compared to cooperation between non-competitors (Quintana-Garcia & Benavides-Velsaco, 2004). Walley (2007) also argues that coopetition enables firms to build competences which are otherwise difficult to acquire. As network theory states, expanding the network can result in new competences and professional learning. In addition, engaging in coopetitive relationships can enable access to new markets and potential customers (Crick, 2019). From a game theory perspective, it is argued that coopetition can lead to increased sales, market shares, brand recognition and market penetration for all companies involved (Rodrigues, Souza & Leitao, 2011).

2.8.2 Reducing costs and mitigating uncertainty and risks

Empirical studies bear evidence of a positive relationship between coopetition and market performance, especially in industries with high uncertainty and positive network externalities (Ritala, 2012). Moreover, firms can also benefit from coopetitive relationships by sharing costs (Gnyawali & Park, 2011; Brandenburger & Nalebuff, 2021). Sharing costs among involved firms can contribute to mitigating the risks associated with initiating and investing in new projects. By means of mutual activities, the companies can also achieve economies of scale (Luo et al., 2007), and, if successful, coopetition can create a win-win situation with lower overall costs for all the companies involved (Chin, Peterson & Brown, 2008).

2.8.3 Positive synergy effects

Lower overall costs equal a risk of losing competitive advantages (Das & Teng, 1999). Scholars argue, on the other hand, that the negative effects are outweighed by the gains from reduced uncertainty, risks and costs (Soubeyran & Weber, 2002). In other words, the benefits of coopetition are greater than the potential loss of competitive advantages. This can be explained by the synergy effects that arise when competitors cooperate (Bouncken et al., 2015), where the effects of the interacting activities are greater than the cumulative effect of each individual contribution. This may result in better interoperability and increased efficiency (Ritala, 2012; Chin et al., 2008).

2.8.4 Increased efficiency

Efficiency in production and development is crucial in order to maintain competitive advantages and survive in complex and dynamic markets. By cultivating the aforementioned benefits, coopetition may increase the efficiency of all the involved companies (Chin et al., 2008; Bouncken et al., 2015). Through simultaneous cooperation and competition, firms can more efficiently carry out activities due to integration of complementary resources and more efficient communication (Ritala, 2012; Riis, 2000). Because the external environment changes rapidly and is characterized by uncertainty, early access to external knowledge and efficient processes for facing these challenges are important (Ritala & Hurmelinna-Laukkanen, 2013). Hence, by establishing coopetitive relationships, firms can work together to handle external pressure (Gnyawali & Park, 2009).

In the table below, we have summarized the potential benefits of coopetition with reference to existing literature on the topic. The benefits listed are explicitly mentioned by different scholars and are therefore not mutually exclusive.

Benefits of coopetition	**Scholars**
Access to complementary resources	Gnyawali & Park 2009; Quintana-Garcia & Benavides-Velasco, 2004; Ritala & Hurmelinna-Laukkanen, 2009; Bengtsson & Kock, 2000; Gnyawali & Madhavan, 2001; Cygler & Sroka, 2017; Brandenburger & Nalebuff, 2021
Enhancing innovation capacity	Ritala & Hurmelinna-Laukkanen, 2009; Lado et al., 1997; Quintana-Garcia & Benavides-Velasco, 2004
Expanding the network	Roig-Tierno et al., 2018; Crick, 2019; Rodrigues et al., 2011; Ritala, 2012
Improving market position	Cygler & Sroka, 2017; Lado et al., 2007; Rodrigues et al., 2011; Brandenburger & Nalebuff, 2021
Access to new markets and potential customers	Crick, 2019; Rodrigues et al., 2011
Brand recognition	Rodrigues et al., 2011
Reducing overall costs	Chin et al., 2008; Brandenburger & Nalebuff, 2021
Mitigating uncertainty and risks	Gnyawali & Park 2009; Ritala & Hurmelinna-Laukkanen, 2009; Soubeyran & Weber, 2002; Morris et al., 2007
Economies of scale	Luo et al., 2007; Morris et al., 2007

Increasing efficiency	Bouncken et al., 2018; Walley 2007; Riis, 2000; Chin et al., 2008; Quintana-Garcia & Benavides-Velasco, 2004; Riis, 2000
Positive synergy effects	Cygler & Sroka, 2017; Bouncken et al., 2015

Table 1: Summary of potential benefits of coopetition

2.9 Risks and challenges of coopetition

Empirical studies on coopetition characterize this phenomenon mostly in the context of potential benefits (Cygler & Sroka, 2017). However, there are also significant risks and challenges involved with coopetition given the tension between value creation and value appropriation (Nesse, 2018; Cygler & Sroka, 2017; Bouncken et al., 2015; Ritala & Hurmelinna-Laukkanen, 2009; Raza-Ullah & Kostis, 2019; Walley, 2007). Bengtsson and Kock (2000) state that inter-firm coopetition may affect the entire network positively as well as negatively, while Bouncken et al. (2015) describe coopetition as a *"double-edged sword"*. Pellegrin-Boucher, Le Roy & Gurău (2013) even describe the complex situation of inter-firm coopetition as a "*dangerous situation*" because of the complex conflicting nature of the relationship. According to current literature on coopetition, the most prominent risks that follow from inter-firm coopetitive relationships are asymmetry, opportunism, loss of autonomy and regulatory challenges, which will be elaborated on in the following sections. Furthermore, many of the risks that may arise from engaging in inter-firm relationships are related to management of coopetition, which will be discussed further in *section 2.10*.

2.9.1 Asymmetry and opportunism

As with any inter-firm partnership, engaging in coopetitive relationships entails relational risks (Das & Teng, 1999). This includes the risk of losing valuable resources to competitors which may have a negative effect on the firms' competitive advantage (Das & Teng, 1999). When cooperating with rival firms, there is also a significant risk of experiencing asymmetry, that is, imbalance in the coopetitive relationship (Das & Teng, 1999; Cygler et al., 2018). According to Haugland (1996) this is one of the most common pitfalls in inter-firm cooperation. Asymmetry can occur if there is imbalance in power, uneven access to resources or in the benefits derived from the partnership (Cygler et al., 2018; Brandenburger & Nalebuff, 2021).

In most cases, asymmetry in coopetitive relationships is related to uneven access to intangible resources such as knowledge. Because knowledge sharing is quite central in coopetition, knowledge flows may become asymmetric or unintentionally leaked (Ritala & Hurmelinna-Laukkanen, 2009). The coopetitive relationship may also become asymmetric when one of the parties involved accumulates knowledge-based assets at a slower rate than that of its coopetitive partners (Lado et al., 1997). Because partners in a coopetitive relationship are competitors, the absorptive capacity of the parties involved is usually quite high (Ritala & Hurmelinna-Laukkanen, 2009). Hence, the volume of knowledge leaks can be quite significant, which may entail major risks for the firms involved. The risk of being in an asymmetric relationship may therefore prevent firms from wanting to engage in coopetitive relationships.

The nature of building a relationship with competitors also gives rise to opportunistic behaviour, more so than in the case of alliances with non-competitors (Cygler et al., 2018). Opportunistic behaviour refers to the situation where coopetitive partners use absorbed or shared knowledge for their own benefit (Bouncken & Kraus, 2013). Moreover, opportunistic behaviour also refers to situations where competitors use their power to force other parties to act in a way that is only in their own best interest at the expense of the others. Because integrating and sharing knowledge is an important part of coopetition, high risk of opportunism is a known disadvantage of inter-firm coopetition (Bouncken & Kraus, 2013).

The risk of opportunism is also supported transaction cost theory which states that coopetition is risky because incentives to act opportunistically may undermine cooperative agreements (Quintana-Garcia & Benavides-Velasco, 2004). Cygler et al. (2018) highlight information leakage or even economic espionage, resulting in firms losing control over own resources as a major risk when entering into coopetitive relationships. As such, the risk of being exploited might foster fear, suspicion, worries and other behaviours which may lead to inefficient coopetition. Moreover, with reference to game theory, aggressive and short-sighted opportunistic behaviour in an attempt to attain domination in the coopetitive relationship, leads to an asymmetric relationship and the risk of a zero-sum game (Cygler et al., 2018).

Opportunistic behaviour also refers to situations where firms treat coopetitive relationships as temporary. This means that a firm behaves opportunistically if it becomes less committed to the coopetitive agreement over time once it has achieved its goal (Bouncken et al., 2015), for instance by disclosing less information to its counterparts (Lado et al., 1997). As a result of this type of behaviour, companies often strive to achieve their goal in the shortest possible time.

Asymmetry, opportunistic behaviour and knowledge leakage in a coopetitive relationship can hinder the development of radical innovation, and hence, harm the overall performance and competitive advantage of the coopetitive firms (Bouncken et al., 2015). In the face of the concerns related to these risks, firms are often reluctant to share knowledge and other valuable resources with their partners hampering the positive impact of coopetition (Raza-Ullah & Kostis, 2019).

2.9.2 Loss of autonomy

Aggressive opportunistic behaviour, lack of trust and high costs of settlement may ultimately lead to the parties striving for domination (Cygler & Sroka, 2017). This is especially the case in a coopetitive relationship between firms that differ widely in size or where one party is stronger than the other (Gnyawali & Park, 2009; Cygler & Sroka, 2017). In these coopetitive relationships, dominant partners have more power and control over the inter-firm relationship and can force the smaller firms to take on more risk and will to a greater extent control the partnership making the relationship asymmetric (Gnyawali & Park, 2009). Such conflicts may result in a zero-sum game where the parties are weakened and experience loss of customers and deterioration in market position. Moreover, according to Baumard (2009) depending on an external partner's resources can lead to firms losing their individual capacity for innovation which again may lead to loss of freedom and flexibility. In these situations the smaller firms depending on the dominant partners will lose a big amount of organizational autonomy (Gnyawali & Park, 2009; Cygler & Sroka, 2017). Coopetitive relationships might also generate above-average costs of functioning beyond the firms' financial capabilities threatening the firms' existence (Ritala, Hallinkas & Sissonen, 2008).

Furthermore, firms engaging in coopetitive relationships may experience a loss of organizational independence due to contractual clauses and agreements of exclusivity protecting the parties' interests (Cygler & Sroka, 2017; Cygler et al., 2018). These types of agreements between competitive parties limit the operations of the involved firms and the possibility of cooperating with other parties as well as limiting the freedom of decision-making. As such, loss of autonomy becomes the price of functioning in a coopetitive relationship (Cygler & Sroka, 2017; Cygler et al., 2018).

2.9.3 Conflicting priorities

When forming coopetitive relationships, firms may differ in aims and needs which can lead to disagreements and inter-firm conflicts (Lado et al., 1997). Kogut (1998) argues that conflicting goals can lead to dysfunctional cooperation, which eventually will fail. Hence, inter-firm coopetitive relationships may fail to generate benefits when the partners involved have incongruent goals, priorities and expectations (Lado et al., 1997). If joint objectives of mutual goals are not clearly defined before entering the coopetitive relationship, the relationship might be based on mistrust and misunderstandings causing inter-firm conflicts (Lado et al., 1997).

2.9.4 Regulating coopetition

Parallel with the emergence of coopetitive relationships comes the challenge of making sure coopetitive activities are within the boundaries of the law. Regulating coopetitive relationships is therefore a challenge. According to Jacobides and Lianos (2021) regulatory authorities lack the focus, skills and resources to tackle these challenges. This is due to the fact that the persistent focus on inter-firm competition law has left the important issues of competition within an entity neglected, such as competition within a regional cluster. As a result of this, transgressions may occur from time to time. Hence, there is a need to create new regulatory rules to improve competition, both between and within cooperative entities.

In the table below, we have summarized the potential risks and challenges of coopetition with reference to existing literature.

Risks and challenges	Scholars
Losing valuable resources	Das & Teng, 1999
Asymmetry and opportunism	Ritala & Hurmelinna-Laukkanen, 2009; Cygler et al., 2018; Haugland, 1996; Bouncken & Kraus, 2013; Bouncken et al., 2015; Raza-Ullah & Kostis, 2019; Lado et al., 1997; Brandenburger & Nalebuff, 2021
Loss of autonomy	Gnyawali & Park, 2009; Cygler & Sroka, 2017; Baumard, 2009; Cygler et al., 2018
Conflicting priorities	Lado et al., 1997
Regulating coopetition	Jacobides and Lianos, 2021

Table 2: Summary of potential risks and challenges of coopetition

2.10 Managing coopetition

In the previous subsections we have discussed potential benefits and risks associated with coopetition with reference to relevant literature. Being aware of these benefits and risks is essential in trying to manage coopetition as it provides a deeper understanding of the challenges and tensions that may arise. In the following we will review existing literature on how to manage coopetition, thereby addressing the core of our research question.

Managing inter-firm coopetition is a highly challenging task which requires managers to balance complex interactions, involving both cooperative and competitive activities at the same time (Bengtsson & Kock, 2014; Hannah & Eisenhardt, 2018). If the coopetitive relationship is managed properly, the involved firms can pursue the opportunities and reap the potential benefits that may arise in these types of partnerships (Gnyawali & Park, 2011). On the other hand, if coopetition is managed poorly potential risks and challenges can hamper the positive impact of coopetition (Cygler & Sroka, 2017). Management decisions regarding coopetition therefore require deliberate actions especially due to the complex and interdependent nature of inter-firm relationships (Bouncken et al., 2015).

Engaging in coopetitive relationships requires firms to adapt to conflicting roles due to the two paradoxical logics of interaction (Bouncken et al., 2015; Walley, 2007). To ensure success managers must create and shape value systems that foster both cooperation and competition simultaneously (Lado et al., 1997). This can lead to internal tensions within the firm which in turn can create actual costs for the coopetitive partners (Bouncken et al., 2015; Dowling, Roering, Carling & Wisnieski, 1996). These challenges therefore need special attention and must be managed accordingly in order to reap the potential benefits of coopetition (Walley, 2007).

According to Nesse (2018) current literature offers three approaches to solve management challenges that follow from engaging in coopetitive relationships: establishing legal contracts, separating cooperative and competitive activities and involving a third party. The first approach involves establishing legal contracts to regulate the challenges that may arise. However, this approach is criticized because contractual clauses cannot motivate a firm to interact if the willingness to engage in such a relationship is not present to begin with (Nesse, 2018).

Moreover, as aforementioned, establishing contractual clauses might limit the autonomy and prevent firms from wanting to engage in inter-firm relationships.

The second approach involves separating cooperative and competitive activities and is referred to as *"structural separation"*. This involves separating competition and cooperation activities and managing these separately to reduce internal tensions (Nesse, 2018; Hoffman, Lavie, Lauer & Shipilov, 2018; Bengtsson & Kock, 2000; Dowling et al., 1996). Separating these paradigms can be done by cooperating in upstream activities such as R&D and competing in downstream activities such as marketing and sales (Nesse, 2018). This way, firms can pursue both competitive and cooperative goals via separate organizational units. However, this requires coordination across units and clear procedures for maintaining separation (Hoffman et al., 2018). Nevertheless, several scholars criticize structural separation and instead propose "*an integration principle*" which allows individuals to understand each other's role in the coopetitive relationship and cooperate accordingly (Das & Teng, 2000; Chen, 2008). More recent studies, however, support a combination of both views to maintain a constructive balance between competition and cooperation (Pellegrin-Boucher et al., 2013; Le Roy & Fernandez, 2015).

The third and last approach presented by Nesse (2018) involves placing the responsibility of managing coopetition on a third party, for instance a regional cluster. In this case the regional cluster will act as a neutral third party creating platforms for interactions and facilitating communication between the involved firms. In this thesis we will further investigate this approach by studying the role of NCE FI as a third party in solving management challenges that follow from engaging in coopetitive relationships.

The three aforementioned approaches are generally criticized because they assume that firms managing coopetition through legal contracts, structural separation or by involving a third party will not experience the paradoxical tensions that coopetition entails (Nesse, 2018). However, despite implementing such measures these tensions will, according to Bengtson and Kock (2014) continue to exist because the paradoxical interplay between competition and cooperation is still present. To illustrate, opportunistic behaviour does not need to be physically present in order for the parties to withdraw from coopetitive relationships. It is sufficient that the threat is present (Nesse, 2018). Managing coopetition therefore entails addressing the core of the paradoxical tensions that may arise.

An important part of managing the paradoxical tensions in coopetitive relationships involves building trust (Nesse, 2018), and existing research shows that trust is indeed an important success factor when establishing inter-firm relationships (Cygler & Sroka, 2017). Trust is defined as the common belief that neither party involved in a cooperative relationship will exploit or use the other party's weaknesses for their own benefit (Sabel, 1993). Because coopetitive relationships with rivals involve knowledge sharing and integration, prior research emphasizes the importance of building trust between partnering firms to reduce the risk of inter-firm conflicts and partners exploiting each other's vulnerabilities (Raza-Ullah & Kostis, 2019). Building trust between firms reduces uncertainty and provides a sense of assurance. As such, trust serves as an intervening control mechanism, reducing the exploitation risks that come with coopetition, in addition to reducing transaction costs related to building governance mechanisms safeguarding against potential opportunistic behaviour (Raza-Ullah & Kostis, 2019; Quintana-Garcia & Benavides-Velasco, 2004). Additionally, trust often ensures a greater tendency to share resources which strengthens the coopetitive relationship (Cygler & Sroka, 2017).

According to research by Nesse (2018), trust can be established and maintained through three management functions for cooperation and three management functions for competition. The first management function for cooperation primarily involves conveying the need to cooperate, in other words getting the parties to *accept* the situation and the demand for cooperation. Managers also have to spend time *encouraging* parties to engage and create incentives to participate. Ultimately, managers have to *facilitate* the cooperative platform by creating arenas for interaction such as networking and knowledge sharing (Nesse, 2018).

Managers will experience situations in which the trust that is previously established between the parties is in danger due to conflicts, disagreements or mistrust. These situations occur primarily because the parties involved are, in fact, competitors. In these situations, the first management function for competition involves *handling emotions* by cultivating positive feelings and behaviour (Nesse, 2018). The second function involves *mediating* between the parties by acting as, or involving, a third party to consider whether cooperation is possible (Nesse, 2018). The last management function is *negotiation* which involves making sure the involved parties come to an agreement (Nesse, 2018). Third party expertise may also be involved in this stage.

3.0 Research setting

In this section, we will present the empirical context for our study. First, we will give a brief introduction to the phenomenon of clusters, followed by a presentation of the regional cluster NCE Finance Innovation.

3.1 Clusters

Inter-firm coopetitive relationships can be bilateral or multilateral and can be present in several types of formations. In this thesis, we will study coopetition in the context of a regional cluster.

Literature states that firms tend to concentrate in certain locations as various types of economic agglomerations (Cojocaru & Ionescu, 2016). An example of such is the phenomenon of clusters. Clusters are advanced and complex economic entities defined by Porter (1998) as: "*geographic concentration of interconnected companies and associated institutions in a particular field, linked by commonalities and complementarities*". In other words, clusters can be described as a geographical network made up of interdependencies between various types of entities in related industries. These entities are interconnected through a wide range of relationships with customers, competitors, distributors, financial partners and others. However, the concept of clusters can be perceived as an *"umbrella concept"* as it cannot be described with precision (Cojocaru & Ionescu, 2016). Moreover, the structure of clusters can vary by location or industry and be a subject of multiple interpretations (Martin & Sunley, 2003).

The reason why firms concentrate in a specific region may be a result of many factors, such as local demand, organizational cultures, specialized suppliers and access to resources (Cojocaru & Ionescu, 2016). Regional clusters have recently gained attention in theory and in practice, because the presence of a regional cluster enhances firms' productivity as well as stimulating growth in a region. As such, regional clusters serve as a driving force for economic growth attaining benefits that are greater than for isolated firms.

The main elements of a cluster are the geographic concentration, the interconnection between firms and institutions, the specialization factor and the simultaneous existence of competition and cooperation between entities (Porter, 1998). The latter refers to how clusters are increasingly becoming an important part of how many firms choose to cooperate and compete simultaneously in order to enhance innovation and economic growth. As such, clusters can serve as a platform for developing and fostering multilateral coopetitive relationships and therefore provides an interesting context for studying coopetition.

The objective of this thesis is to examine the concept of coopetition by exploring how a neutral third party can manage coopetitive relationships. The neutral third party we will use as a point of departure in our thesis is the Norwegian Finance Innovation cluster. It is worth noting that representatives from NCE FI use the terms *"cluster"* and *"ecosystem"* interchangeably in the interviews to describe their business platform as these concepts are related and quite similar in nature. However, in our study we have chosen to refer to NCE FI as a regional cluster and we will therefore apply theory addressing the concept of clusters.

3.2 NCE Finance Innovation

NCE FI was established in Bergen in 2017 as a non-profit local business cluster with the objective of triggering and enhancing collaborative activities in the Norwegian fintech industry (NCE, n.d). Through technological innovation and by combining powers from finance, technology and academia, the goal was to make Bergen a strong fintech hub in Norway (NCE, n.d).

The NCE program is initially a government supported cluster programme that aims to create value through sustainable innovation. Additionally, the NCE-programme seeks to facilitate increased conversion and growth, and thus make the actors more robust towards international markets and potential external threats. The cluster programme targets dynamic industry clusters that have established a cooperative relationship between members and have potential for growth in both national and international markets.

Since the establishment of NCE FI, the cluster has experienced rapid development and reached goals beyond its initial scope. Today NCE FI has six employees in addition to having a board of directors and an advisory board. The cluster delivers value to its 80 member companies by enabling infrastructure and facilitating cooperation. As a result of the relationship between members, partners, alliances and customers, the cluster is today closely connected to the industry in other Norwegian cities and neighbouring countries and has achieved a national scope in record-breaking time.

Members of NCE FI work together to solve matters that affect the fintech industry, for instance matters concerning sustainability, money laundering, insurance fraud and more. As such, member firms solve problems on a macro level based on input from members, market trends, regulation, and anything else related to the fintech cluster, by cooperating in projects or by forming working groups. These two cooperative methods have different purposes and are based on different types of commitments. The main purpose of projects is to develop solutions to a problem in a given time, whereas working groups are more informal *"chit-chat"*-sessions where the main objective is to gain insight into the market and discuss universal problems with competitors. Both cooperative methods facilitate an arena for coopetition, and hence, in order to get a broader insight into how NCE FI as a third party can manage coopetitive relationships, we have collected data across different projects and working groups.

4.0 Methodology

In this section we will present the research design applied in our study. This includes research method, approach and strategy, followed by a description of the data collection process and the methods used to analyse these data. Ultimately, we discuss the quality of the data as well as reflect upon ethical considerations.

4.1 Research design

A research design is a general plan of how one wishes to approach the chosen research question (Saunders, Lewis & Thornhill, 2016). This involves establishing a research approach, methods for collecting and analysing data in addition to reflecting on ethical considerations.

4.1.1 Method, approach and strategy

We have chosen to apply a qualitative research method in an attempt to answer our research question. This type of research method is suitable when wanting to explore a specific topic in depth to understand a phenomenon in its natural context (Jacobsen, 2005). In comparison to quantitative research, qualitative research is often defined as any data collection technique or data analysis method that generates or uses non-numeric data often based on meanings expressed through language and actions (Saunders et al., 2016). Because the nature of our research question is relatively open, applying a non-numeric research method is most suitable.

Due to the nature of our research question, it is most suitable to conduct an exploratory research. This involves having a broad focus which becomes narrower as we research (Saunders et al., 2016). This type of research design is particularly useful when wanting to clarify and gain rich insights into a specific topic or problem (Saunders et al., 2016). An exploratory research design is also quite flexible and adaptable to change, meaning that it allows us to change directions as new insights and results appear. In addition, this dynamic design is valuable when adaptations are needed to meet initial uncertainties (Saunders et al., 2016).

Establishing a research approach is also an important part of choosing the right methodology for a research project. In accordance with literature on the subject, a research approach can either be *inductive*, *deductive* or *abductive* depending on the extent to which the researcher uses theory in the beginning of the research (Saunders et al., 2016). An inductive approach involves developing a richer theoretical perspective on a topic that already exists and starts by collecting data to explore the research topic in order to generate or build theory. Conversely, a deductive approach involves reading academic literature prior to researching and designing a strategy to test existing theoretical perspectives using qualitative procedures (Saunders et al., 2016). This implies that a deductive approach is most suitable when studying topics that have already been subject to research, and an inductive approach is most suitable when studying topics that have not yet been researched (Saunder et al., 2016). An abductive approach combines the two aforementioned approaches by collecting data to explore a phenomenon, identifying themes and patterns and locating these in a conceptual framework and further testing this through subsequent data to generate or modify existing theory (Saunders et al., 2016).

Furthermore, our research takes the form of a case study. This type of research strategy opens up for in-depth analysis which is suitable in answering questions like "*what*", "*why*" and "*how*" (Saunders et al., 2016). Hence, the case study strategy is appropriate for facilitating complex analysis which characterizes our research question. The case study will consist of an in-depth analysis exploring the phenomenon of coopetition.

Based on the nature of our research strategy, our research can be described as a combination of deductive and inductive approach, although slightly more inductive. Firstly, we applied a deductive approach by reviewing relevant literature on coopetition. However, we found that the literature on how to manage coopetition was not sufficient and we therefore decided to collect data in order to gain new insight on the topic. Hence, we applied an inductive approach to conclude on our research question and used a deductive approach to compare our findings to current literature. Although our study combines both research approaches, it cannot be characterized as being purely abductive. This is due to the fact that we do not test the findings from the data analysis.

4.1.2 Research objectives

With this research we hope to contribute with findings on how to manage coopetition. More precisely, the objective of this thesis is to examine the concept of coopetition by exploring how a neutral third party can manage coopetitive relationships. This involves exploring potential benefits and risks of coopetition in order to create a deeper understanding of how to manage the tensions that may arise in a coopetitive relationship.

4.2 Data collection

4.2.1 Data sources

Primary data is data collected with the purpose of answering the research question (Saunders et al., 2016). In the context of a qualitative case study, an advantageous approach to data collection is semi-structured interviews (Saunders et al., 2016). This is a non-standardized collection technique which is suitable in exploratory studies (Saunders et al., 2016). To explore the topic of coopetition and answer the research question, we found it most appropriate to talk directly to informants. Hence, our primary data collection consists of semi-structured in-depth interviews with representatives from NCE FI and member firms. To ensure consistency, we designed interview guides prior to conducting the interviews which included key topics and a list of open-ended questions. However, the unstructured collection method allowed us to customize each interview by asking additional questions and encouraging the informants to elaborate on certain topics. This provided a deeper understanding of the perceptions that informants ascribed to different topics.

Secondary data is data collected for other purposes and can be used to further analyse, add knowledge or conclude (Saunder et al., 2016). Secondary data was collected with the intention of creating a deeper understanding of the context. Moreover, we applied secondary data to supplement primary data and to confirm the information provided by the informants in the interviews. Our secondary data collection consists of company websites, news articles and other documents provided by the informants.

Secondary data	Sources
Company websites	The websites of NCE FI and member firms as well as information about clusters on the website of Innovation Norway.
News articles	News articles about different projects initiated by NCE FI, such as the articles on the insurance fraud project retrieved from FinansWatch.no and Finansfokus.no.
Documents	Power Point-presentations of projects and project plans, in addition to using Lovdata on matters concerning Competition Law.

Table 3: Secondary data

4.2.2 Sample

Based on the context of our research question, we found it most suitable to use theoretical sampling which is a purposive and non-random sampling method (Saunders et al., 2016). This method involves selecting samples based on subjective judgements that enable the researcher to answer the research question. Initially, the idea was to study a specific project initiated by NCE FI and sample informants from participating firms. In conversations with representatives from NCE FI we received suggestions on how to approach the topic of coopetition. Based on these conversations, we chose to focus on the entire fintech cluster, gathering insight on coopetition from several projects and working groups rather than focusing on a specific project. We then conducted in-depth interviews with the representatives from NCE FI, who further suggested and put us in contact with other relevant informants from member firms. These informants were proposed to us based on how well-suited they were to contribute to the research.

In order to determine how many interviews are sufficient in a qualitative study, researchers often refer to data saturation (Saunders et al., 2016). Data saturation means that further data collection provides little or no new information or new proposed topics (Saunders et al., 2016). After conducting several interviews, we experienced that the same topics recurred implying a significant degree of data saturation in our study. In total we conducted nine interviews, which according to literature is a quite common number in this type of research (Saunder et al., 2016). However, some scholars argue that it can be advantageous to conduct a smaller number of interviews in order to devote more time to prepare and analyse data. Nevertheless, because we wanted to conduct interviews with informants across projects and working groups to get a broader insight into how coopetition is managed, we concluded that nine interviews would be sufficient. Moreover, as the last interview provided little or no new information, we concluded that we had gained a significant understanding of the topic and context of our study, and hence, had conducted a sufficient number of interviews.

An overview of informants that have participated in our study is listed below. With respect to the informants’ anonymity, we only list their affiliation.

Interview number	Informants	Date of collection
Interview no. 1	Representative from NCE FI (1)	2nd of September
Interview no. 2	Company representative	28th of September
Interview no. 3	Representative from NCE FI (2)	12th of October
Interview no. 4	Representative from NCE FI (1)	2nd of November
Interview no. 5	Representative from NCE FI (2)	8th of November
Interview no. 6	Company representative	11th of November
Interview no. 7	Company representative	11th of November
Interview no. 8	Company representative	16th of November
Interview no. 9	Company representative	17th of November

Table 4: List of informants

(Informants that are given numbers have been interviewed more than once)

4.2.3 Interview process

After receiving the informants' contact information from the representatives of NCE FI, we approached the informants by email with a brief description of who we are and the purpose of our study. Upon receiving a positive response, we scheduled a digital meeting and sent out a Microsoft Teams-invite to the participant along with a more detailed description of topics for the interview. Moreover, we sent a consent form containing additional information about the purpose of our study, what it means to participate in the interview and how we intend to process the data and personal information (*appendix 3*). With respect to the informants' busy schedule, we planned for interviews with a duration of approximately one hour. All the interviews were conducted digitally on Microsoft Teams due to variations in geographical locations. In total, nine in-depth interviews were conducted in the period between 2nd of September 2021 and 17th of November 2021. The interviews were held in Norwegian and subsequently transcribed and translated into English in order to provide a natural context for the informant and to prevent any language barrier from limiting the data collection.

Prior to the interviews we browsed and studied relevant literature on coopetition and clusters as well as literature on how to conduct successful semi-structured interviews. Moreover, we acquired knowledge about NCE FI in order to get acquainted with the context for our study.

We divided responsibilities prior to each interview in order to ensure communication flow. This involved dividing responsibility for asking questions, taking notes and recording the interview. However, we decided that the responsibility for asking follow-up questions should be equally shared due to the importance of testing our understanding of the concepts and investigating new, interesting topics.

We started each interview by introducing ourselves and presenting the nature and purpose of our study. Subsequently, we made sure to inform the participants about their anonymity and asked if they could confirm that they had received the consent form by email. When we had informed the participants about the formalities, we started asking questions related to the topic of our study. In order to ensure communication flow, the interview guide was used as a point of departure. Due to the fact that we conducted interviews with informants that play different roles in the cluster, we found it most appropriate to design two different interview guides (initial interview guides attached in *Appendix 1* and *2*). The interview guides included a predetermined list of open-ended questions allowing the informant to elaborate on the topics. However, in line with the exploratory strategy the interviews were relatively unstructured allowing the informants' answers to point us in new directions. Furthermore, we adjusted the order of the questions in the interview guide depending on the flow of the conversation. Additionally, to ensure full understanding during the interview, we asked follow-up questions and repeated the responses.

At the end of each interview, we asked the informants if they had anything they would like to add or statements they would like to change, allowing them to clarify any misunderstandings that might have occurred during the interview. We also asked the participants if they would like to receive a transcribed version of the interview by email, to which none of them answered yes.

After having completed the interviews, we summarized the most important information and compared our understanding of the informants' statements. If there were any inconsistencies, we made sure to contact the informant in order to clarify the intended meaning of the initial statement. The interview guides were also modified and expanded after each interview. Moreover, we discussed new topics that may have arisen during the interview.

4.3 Data analysis

Due to the qualitative nature of our research design, data analysis is primarily conducted through the use of conceptualization and consists of analysing the collected findings by classifying the non-standardized data into categories (Saunders et al., 2016). In the process of analysing the acquired qualitative data, we have followed the coding guidelines for Grounded Theory Method set out by Saunders et al. (2016) and Charmaz (2014).

Grounded Theory Method is an analytical procedure for identifying core categories that emerges from the data collected through systematic and structured procedures (Charmaz, 2014). In comparison to other methods, Charmaz has a more flexible approach to the Grounded Theory Method and we have therefore chosen to follow these guidelines for analysing our data collection (Saunders et al., 2016). Charmaz (2014) approaches the Grounded Theory Method by separating the data analysis into two major phases of coding; *initial coding* and *focused coding*. The first phase of coding involves disaggregating the collected data into conceptual units with a suitable heading, where units with similar characteristics are given the same heading (Saunders et al., 2016). The first phase also includes comparing and placing the code headings into related groupings which allows the researcher to focus the research project and develop the analytical process (Saunders et al., 2016). The second phase is an iterative process which involves reanalysing the collected data into patterns and themes in order to test which initial codes can become focused codes to be applied on larger units of data (Saunders et al., 2016). Separating the data analysis into these two stages allows researchers to move from a broader focus of research to a narrower focus by refining and limiting the scope of the data collection (Saunders et al., 2016).

4.3.1 Data preparation

Prior to analysing our data, the interviews were transcribed verbatim in their entirety as soon as possible after the interviews were undertaken in order to avoid a build-up of audio-recordings and associated transcription work. The transcription of the interviews contained not only the words expressed by the informant, but also the contextual and non-verbal factors that may contribute to explain the true meaning of the words. This way, we made sure that important factors which could have an impact on the responses, were not missed (Saunders et al., 2016).

4.3.2 First phase: Initial Data Analysis and coding

Following the transcription, the interviews were subsequently coded. Coding of data, in a qualitative sense, involves compressing statements into briefer sentences in which the main sense of what has been said is rephrased in just a few words. In the initial coding phase, we followed the guidelines set out by Charmaz (2014) thoroughly. This involved screening the collected data comprehensively and subsequently categorizing and coding the collected data by adding a short phrase or representative sentence summarizing the data (Charmaz, 2014). This method for analysing collected data was applied both to primary and secondary data and helped to conceptualize the large quantity of information acquired.

Law is very, very important here, it is [redacted] that is involved in law. What is a bit interesting at the start of the project here is that we only had two insurance companies. [redacted], and I emphasize this because when the purpose of the project is to get more data and train the machine learning algorithms on a larger data set, you can easily calculate that in percent, [redacted] has more to gain from partnering with [redacted] than the other way around. So, it was basically a fairly demanding balance, and in addition there is a fairly significant security issue in that if two pieces share data, then I know that if it is not my data, then it is your data, so we needed a critical mass of three or more companies. That and, I think is interesting to get involved in such a task, because you have that imbalance, you need to have three or more, both driven by security, but also driven by the fact that the more data, the more value. There were also several companies, let's call it on the consultant or supplier side who wanted to join, but who did not really have anything to bring to the table, and thus were not allowed to join. [redacted] brings to the table a very important technical competence, and how to share data, without gaining access to each other's data, in a secure way. So, it was absolutely crucial, and [redacted] brings in law, both on GDPR and privacy and competition law rules. So, what I'm really trying to say is that each of these ingredients was absolutely crucial for this dish to be created, but at the same time there are no superfluous ingredients. Also, it's a point to get these ingredients balanced, so it does not just taste like chili, or just tastes something else. So, the orchestration that is needed at the starting point, making it worth moving on with, there it is some interesting parts both in theory and practice.

Ida Jødahl
Involving a legal entity

Ida Jødahl
Imbalance in what the firms gain

Ida Jødahl
Challenge of asymmetry

Ida Jødahl
Securing the data

Ida Jødahl
Assuring a critical mass

Ida Jødahl
Imbalance

Ida Jødahl
Assuring a critical mass

Ida Jødahl
Need to contribute with something valuable

Ida Jødahl
Make sure the relationship is balanced

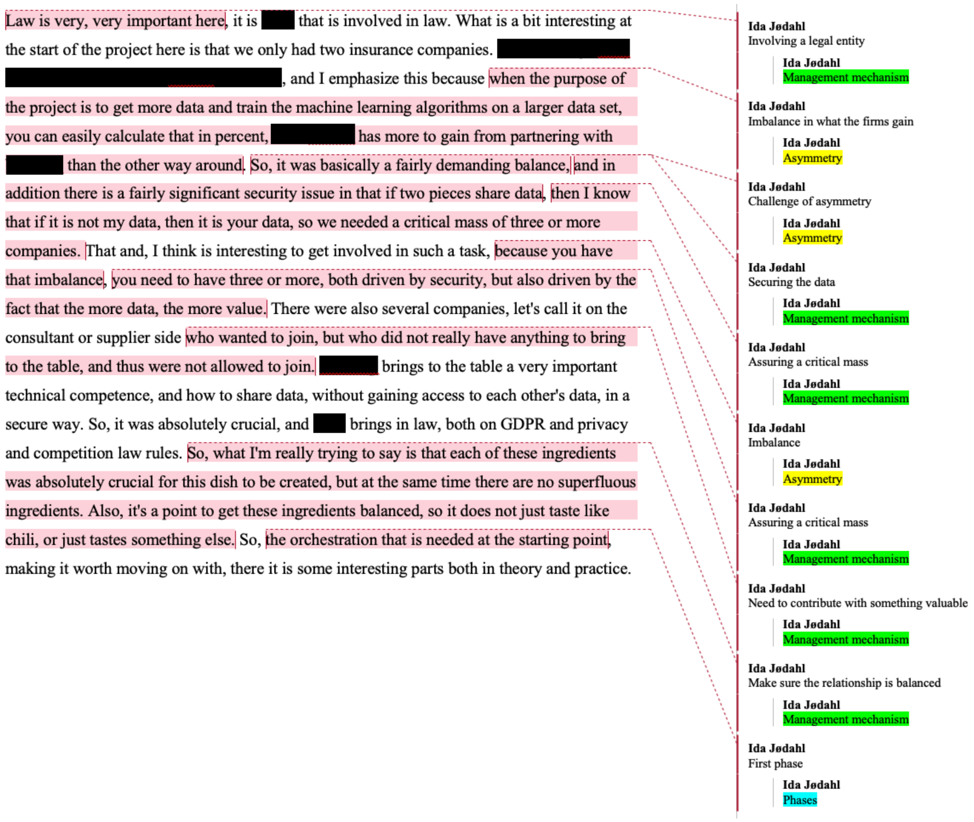
Ida Jødahl
First phase

Figure 1: An illustrative example of the initial coding phase

Commencing on the data analysis phase, while at the same time collecting data, contributed to improving our collection process, for example by modifying our interview guide. In accordance with the guidelines set out by Saunders et al. (2016) and Charmaz (2014) we also made sure to keep, and regularly examine, notes and memos to develop a better conceptualization and to build theory.

4.3.3 Second phase: Focused Data Analysis and coding

According to Charmaz (2014) focused coding involves determining which of the initial codes are useful in developing an analytical and explanatory focus of your coded data which can help explain your research question. In order to gain exploratory insights into our large quantity of collected data, we began the focused coding phase by comprehensively analysing the initial codes and subsequently colour-coding and regrouping them based on similarities. The codes were then separated based on the colour-coding and moved into separate files and organized with headers discussing the same issues. The next step in analysing the data according to Charmaz (2014), consists of comparing the initial codes with phrases used in relevant literature by going back and forth. This process resulted in findings which will be elaborated on in the discussion chapter. *Figure 2* shows an example of the focused coding of our data, where colours were used to separate the focused codes.



Law is very, very important here, it is [redacted] that is involved in law. What is a bit interesting at the start of the project here is that we only had two insurance companies. [redacted], and I emphasize this because when the purpose of the project is to get more data and train the machine learning algorithms on a larger data set, you can easily calculate that in percent, [redacted] has more to gain from partnering with [redacted] than the other way around. So, it was basically a fairly demanding balance, and in addition there is a fairly significant security issue in that if two pieces share data, then I know that if it is not my data, then it is your data, so we needed a critical mass of three or more companies. That and, I think is interesting to get involved in such a task, because you have that imbalance, you need to have three or more, both driven by security, but also driven by the fact that the more data, the more value. There were also several companies, let's call it on the consultant or supplier side who wanted to join, but who did not really have anything to bring to the table, and thus were not allowed to join. [redacted] brings to the table a very important technical competence, and how to share data, without gaining access to each other's data, in a secure way. So, it was absolutely crucial, and [redacted] brings in law, both on GDPR and privacy and competition law rules. So, what I'm really trying to say is that each of these ingredients was absolutely crucial for this dish to be created, but at the same time there are no superfluous ingredients. Also, it's a point to get these ingredients balanced, so it does not just taste like chili, or just tastes something else. So, the orchestration that is needed at the starting point, making it worth moving on with, there it is some interesting parts both in theory and practice.

Ida Jødahl
Involving a legal entity
Ida Jødahl
Management mechanism

Ida Jødahl
Imbalance in what the firms gain
Ida Jødahl
Asymmetry

Ida Jødahl
Challenge of asymmetry
Ida Jødahl
Asymmetry

Ida Jødahl
Securing the data
Ida Jødahl
Management mechanism

Ida Jødahl
Assuring a critical mass
Ida Jødahl
Management mechanism

Ida Jødahl
Imbalance
Ida Jødahl
Asymmetry

Ida Jødahl
Assuring a critical mass
Ida Jødahl
Management mechanism

Ida Jødahl
Need to contribute with something valuable
Ida Jødahl
Management mechanism

Ida Jødahl
Make sure the relationship is balanced
Ida Jødahl
Management mechanism

Ida Jødahl
First phase
Ida Jødahl
Phases

Figure 2: An illustrative example of the focused coding phase

4.4 Research quality

This section will present a critical evaluation of the research quality including the research design and data collection. In qualitative research the most appropriate aspects to consider are *credibility, transferability, dependability* and *confirmability* (Saunders et al., 2016). In addition, ethical considerations regarding the data collection will also be discussed.

4.4.1 Credibility

An important process in data collection is verifying the data and making sure the representations of the informants' socially constructed realities actually match what the informants intended (Saunders et al., 2016). In order to ensure that the responses from the informants were reliable and plausible, we made sure the informant understood the questions and asked follow-up questions in order to probe meanings. Moreover, to ensure *participant validation*, we also offered to send the findings back to the informants with the intention of confirming the accuracy of insights and experiences.

To establish further credibility, we used multiple sources to *triangulate* the findings to be certain that no internal contradictions were applicable. Triangulation refers to the process of cross-validating data by comparing and contrasting findings with other materials to capture different dimensions on the same topic (Saunder et al., 2016). This involves gathering multiple copies of the same type of source, or multiple sources that contain the same type of information. Collecting data from informants across different projects and working groups in NCE FI allowed us to capture a multitude of dimensions on the topic of coopetition. Moreover, by cross-validating primary data collected through interviews with secondary data, we ensured further credibility.

However, even though measures were taken to establish credibility, it is difficult to ensure that the participants in the study have a common understanding of the questions and concepts. Different roles, professional background or work culture can explain why people interpret concepts differently.

4.4.2 Transferability

Transferability refers to what degree the findings can be generalised and applied to other settings (Sauners et al., 2016). Due to the qualitative and exploratory nature of our research, the intention was never to create completely generalisable findings. However, the intention was to contribute to current literature and acquire knowledge about how a neutral third party can manage coopetitive relationships. Additionally, by carefully describing our research design, empirical findings and data analysis, future researchers can judge the transferability by adopting the process to a chosen setting.

4.4.3 Dependability

Dependability refers to the replication and consistency in the research and depends on to what degree a researcher would be able to replicate the research design and end up with the same findings (Saunders et al., 2016). In exploratory research many decisions and modifications are made as the process progresses. Hence, it might be difficult to achieve a full replication of the research. Thus, the lack of standardization in semi-structured interviews can result in concerns about dependability. However, this flexibility is what creates value in qualitative research designs because it enables the emergence of new knowledge and hence new research questions (Saunder et al., 2016). Nevertheless, in order to strengthen the dependability, we have thoroughly documented and explained the process of collecting and analysing data.

The concern about dependability is also related to different kinds of biases. Interviewer bias is present if the interviewer allows a subjective view or somehow creates a bias in the way the informant responds to questions. Similarly, informant bias is present if the informant induces a false response or only partially tells the truth. The last and more general form of bias is called participation bias. Participation bias might occur due to the nature of the context or the individuals. In other words, factors such as response time, differences in culture and the location of the interview might affect the data collection. In order to prevent these biases from affecting our study, we have made sure to ask follow-up questions, repeated the responses as well as carefully choosing which questions to include. Moreover, we prepared for the interviews by acquiring knowledge about the informants and their role in NCE FI as well as being conscious about the potential biases during the interview. Additionally, because the interviews were conducted digitally on Microsoft Teams, the informants could choose an appropriate location reducing potential location bias.

4.4.4 Confirmability

Confirmability involves ensuring that the interpretations of the findings clearly derive from the data and are not affected by the researcher's subjective opinions (Carcary, 2020). To ensure confirmability, we followed the transparent and comprehensively described research process and made sure that all the findings were supported by direct quotations from the informants. However, because the interviews were conducted in Norwegian and subsequently translated into English, one may question the confirmability of the citations. Nevertheless, the interviews were carefully translated with precision in order to avoid any subjective opinions affecting the translation process.

4.4.5 Ethical considerations

When conducting a qualitative study, it is important to take ethical considerations into account due to the potential impact on research quality (Saunders et al., 2016). Ethical considerations in a research setting relates to standards of how one should manage the rights of those who become the subject of the research, or those that are affected by it (Saunders et al., 2016). Because our data collection primarily consists of conducting in-depth interviews, ethical considerations in this research study relate to the treatment of the participants.

Prior to conducting the interviews, the informants were given information about the process, the objectives of the interviews and made aware that they are the subjects of the research. Additionally, we informed the participants about their anonymity (Saunders et al., 2016). The informants also received a consent form prior to the interviews containing information about their rights, including the right to withdraw their participation in the research study at any time (Saunders et al., 2016). Furthermore, in accordance with the laws on privacy and to protect the participants in this research, we made sure that the collected data was not manipulated in any way and that data was anonymized by removing all names. We also made sure to inform the participants that the recordings of the interviews will be deleted shortly after the completion of this thesis. Precautions were also taken in the process of storing data. We made sure to store the collected data in its entirety on a personal computer at all times to ensure that identities are not revealed. Moreover, to make sure that our research is consistent with the Norwegian Laws on Personal Data, we applied for approval by the Norwegian Centre of Research Data as well as making sure we followed the ethical guidelines of our institution, the Norwegian School of Economics.

5.0 Findings

In this section, we will present our empirical findings. We will first give a brief summary followed by a more thorough presentation of our findings with reference to quotations from the informants.

5.1 Summary of empirical findings

NCE FI provides the contextual background for our empirical study. Through interviews with representatives from NCE FI and member firms, we have collected data on the role of NCE FI as a third party in managing challenges and tensions that may arise in the context of coopetition. We have collected data from informants who have participated in both projects and working groups initiated by NCE FI, giving us a broader insight into the concept of coopetition.

Based on interviews with representatives from NCE FI and member firms, we find that the process of managing coopetition can be divided into different phases. And according to informants, NCE has a crucial role in managing these phases. This involves facilitating an attractive platform for interaction to motivate coopetition as well as managing challenges and tensions that may arise.

We find that there are several managerial mechanisms that are important in order to manage coopetition. These mechanisms, in addition to supporting tools, are summarized in the table below.

Managerial mechanisms	Tools
Motivating coopetitive relationships	o Facilitating workshops o Expressing the benefits of *"expanding the pie"* o Using the firms' underlying desire to become better o *"Fear of missing out"* effect (FOMO)
Identifying potential risks and challenges	o Preparing for risks and challenges o Getting to know the firms o Arranging one-to-one meetings

Establishing trust and creating a cooperative culture	○ Arranging lectures ○ Ensuring the right mindset ○ T-shirts ○ Facilitating interdisciplinary teams ○ Facilitating constructive dialogue ○ Involving a legal party ○ Creating a safe learning platform ○ Adjusting management methods
Ensuring progress	○ Facilitating meetings ○ Identifying scope ○ Setting ground rules ○ Defining mutual goals and visions ○ Setting a deadline ○ Facilitating opportunities for funding
Handling inter-firm conflicts	○ Intervening ○ Mediating and negotiating ○ Following up on deadlines ○ Handling emotions ○ Facilitating constructive dialogue ○ Arranging one-to-one meetings ○ Creating a common understanding of resource situations ○ Replacing firms that do not contribute
Ensuring compliance with regulations	○ Involving a legal party ○ Monitoring resource sharing
Ensuring cooperation to the end	○ Facilitating constructive dialogue ○ Involving a legal party ○ Strengthening the cooperative culture ○ Implications of game theory ○ Clarifying ownership

Table 5: Managerial mechanism and supporting tools

5.2 Managing coopetition

According to one of the informants from NCE FI, managing coopetition involves handling different phases, where each phase includes several challenges and tensions that must be managed carefully in order to reap the potential benefits of coopetition.

> *"I have followed the different phases, and it is clear that there is quite a difference between the phases. In some phases it is trust, business rationale that is very important, in other phases it is law [...] Everything is important in all phases, but in some [phases] the business potential is the main focus, in the next phase it is what the legal obstacles are, and in the next phase it is how technology can help stay clear of these obstacles."*
>
> - *Representative from NCE FI*

> *"So, it's about balance, right, and the two scales [cooperation and competition scales] go a bit like this [up and down], through the cycle. So, it's an act of balance, really."*
>
> - *Representative from NCE FI*

In managing these phases, NCE FI has a crucial role. In the beginning of the first phase of coopetition, NCE FI has an important role in facilitating an attractive platform to motivate coopetitive relationships.

> *"So, the cluster is really just a tool. A kind of framework to facilitate this interaction and cooperation. And we help connect those who need to meet others like me or someone who is different from me."*
>
> - *Representative from NCE FI*

When having encouraged firms to engage in coopetitive relationships, NCE FI's role is to act as a neutral third party in managing challenges and tensions that may arise in this context. This role is essential in all phases of coopetition.

> *"You need a neutral partner to coordinate, facilitate, keep up the energy, make sure that no one is in a bad position, and make sure that everyone gets something in return, and that no one feels cheated on."*
>
> - *Representative from NCE FI*

These views are supported by representatives from member firms who also emphasize the importance of NCE FI being a facilitator. They all agree that these coopetitive relationships would not have existed without NCE FI.

> *"They [representatives from NCE FI] are a driving force and a facilitator. They are the ones who bring people to the table, they are the ones who use their network, both to come up with ideas and to make sure that projects are initiated, and finding potential participants, but also use their network to solve problems."*
>
> - *Company representative*

> *"I think the cluster is an enabler. It is an enabler for facilitating a project of this kind. So, I think it would have been very difficult to make this happen if the cluster had not existed. [...]. So, I think that it [the cluster] is absolutely essential."*
>
> - *Company representative*

> *"NCE was first and foremost a facilitator. [name] was incredibly good at getting people to talk to each other and make sure we had regular meeting places, made a slack channel for us, arranged meetings, stayed in contact with Innovation Norway, and did a great job with arranging everything so that we could run the project. So, it was incredibly nice, and it was absolutely crucial for us to make it happen."*
>
> - *Company representative*

Based on these findings, we conclude that NCE FI has an essential role in ensuring successful coopetition. In the following, we will present empirical findings explaining how NCE FI as a third party manages coopetition. These findings will be discussed further with reference to the different phases of coopetition in the discussions section.

5.2.1 Motivating coopetitive relationships

As aforementioned, the first step in the first phase of coopetition involves motivating member firms to engage in coopetitive relationships. Representatives from NCE FI compare coopetitive relationships in the cluster with other business projects and explain that these partnerships are particularly challenging due to the fact that the tools one would normally use to incentivise business projects are not present.

"Prior to a project, usually in the private business sector, firms usually create a business case. They say: "We have to invest this much, but the upside if we succeed is this and that." [...] But in our case, we do not know. So, even though we would like to calculate a positive business case prior to initiating the projects, this tool is not available to us. [...] And I'm not saying there's anything wrong with using this tool when you can, but we cannot do it here. So, there are challenges we have to deal with."

- *Representative from NCE FI*

"[...] we have to incentivise, engage, motivate, and control through other mechanisms."

- *Representative from NCE FI*

Despite not being able to use traditional incentivizing tools to motivate coopetition, representatives from NCE FI state that they use other tools such as explicitly expressing the benefits that may arise from collectively "*expanding the pie"*.

"In order to consider open innovation in the first place, you must have a kind of recognition that the sum of all the ideas we come up with in a company is less than the sum of the [internal] ideas if you add them together with the sum of external ideas. [...] So, the way we work is that we really try to build on the synergies that the members eventually see among themselves."

- *Representative from NCE FI*

"We have incumbents who struggle with innovation but have lots of customers and resources. We also have entrepreneurial firms that have less customers, but they have a lot of innovation, and they lack resources. And there are strong synergies in getting the two [firms] to work together."

- *Representative from NCE FI*

"If you do not work with open innovation [...] then the sum of innovation is limited to the internal operations. Because there are more opportunities in the external environment compared to the opportunities inside the company, it makes purely mathematical sense to combine what you manage internally with what you manage

externally. So, really, in a way, it's almost like you have to argue for why you should not engage in open innovation, because it is so logical that you should."

- *Representative from NCE FI*

Moreover, representatives from NCE FI invite firms to participate in informal workshops as a tool to motivate and encourage member firms to engage in coopetitive relationships. By facilitating workshops, NCE creates a common learning platform where member firms can gather and discuss universal problems, and hence come up with new ideas for projects and working groups. Based on these ideas, NCE FI facilitates coopetition by locating, mobilizing and connecting suitable participants.

"There are suggestions in workshops from members, and the administration's job is to find the form and shape of it [the idea], and also try to mobilize the ecosystem."

- *Representative from NCE FI*

This is also confirmed by a company representative:

"In a way, they invite us to dinner, they set the table, and then we as guests choose what food to make."

- *Company representative*

Representatives from NCE FI also express that they use the *"fear of missing out"* effect (FOMO) as a useful tool to motivate coopetitive relationships. FOMO explains the risk of gaining a competitive disadvantage if firms do not follow the continuous developments in the market or fail to change in accordance with new demands.

"There is a bit of that fear of missing out effect, if you leave, and many enough joins, then there is a risk that those who leave will fall behind the [rest of the] industry. And they [the firms] are worried about that. So, if you first get them [the firms] on the project, then it's really the same logic that keeps them engaged."

- *Representative from NCE FI*

"An ecosystem where everyone can come together, build something and develop. And here, FOMO comes in again, the fear of missing things. [...] I think this is the "clue"

that we as an administration tell the companies that this is something you should be part of because otherwise you will miss something."

- *Representative from NCE FI*

Besides FOMO, representatives from NCE FI express that an important tool to motivate firms to engage in coopetitive relationships is to use the firms' underlying desire to become better.

"[...] they have their own desire, a drive, to get better, and I can take advantage of that. And since I know that many of the companies have the same drive, I can use this."

- *Representative from NCE FI*

"Coopetition, in other words training with your competitors, is about getting better yourself, but also to improve as a group to become better than others. So, getting better yourself is the main reason you do this, it's not really to contribute to making others better. There is also a selfish drive behind this, but it is also to realize that the road to becoming better includes cooperating with others."

- *Representative from NCE FI*

"[The firms] are successful, they always get a little better, but they reach these bottlenecks along the way which means that they are forced to work with others if they want to get better. [...] if you want something, then you have to work with others over time to stay in the game and realize your potential. I think these are the underlying mechanisms of coopetition. It's not just about business, it's about ambition and the personal desire to become professionally better."

- *Representative from NCE FI*

5.2.2 Identifying potential risks and challenges

Based on data collected through interviews, we find that the informants generally agree that there are several risks connected to engaging in coopetitive relationships. Representatives from NCE FI state that an important part of their job as a facilitator in the first phase of coopetition involves identifying and preparing for potential risks and challenges that may arise, in order to create and facilitate a safe framework for coopetition.

> *"So, I think it is important that the administration has an overview and is able to analyse how things can unfold and plan as much as possible in advance, so that you can prepare for any challenges that may arise."*
> - *Representative from NCE FI*

In other words, much of the work associated with initiating projects for the administration in NCE FI involves getting to know the participating firms by arranging one-to-one meetings in order to identify potential risks and challenges that may arise due to the paradoxical nature of the relationship between the cooperating firms.

> *"So, I think in a way, my experience is that I always have to have one-to-one contact with all the companies in the project. [...] I believe that the most important job for the administration is therefore to have this insight and the capacity to be able to understand the frustration the companies might have. So, I think that is a very important success criterion for us to be able to succeed together with competitors."*
> - *Representative from NCE FI*

5.2.3 Establishing trust and creating a cooperative culture

When having motivated the firms to engage in coopetitive relationships, the next challenge is getting the firms to cooperate.

> *"In the beginning it is very "frosty", a bit hostile, you sit like this [leaning back, with arms crossed]. So, yes, the cooperative relationship is affected [by the fact that they are competitors]."*
> - *Representative from NCE FI*

> *"[...] in the beginning, it is the ice you have to break that is the challenge."*
> - *Representative from NCE FI*

In an attempt to get the firms to cooperate and reduce the hostility which usually dominates the relationship between the competitors in the first phase, the informants highlight the importance of building trust and creating a cooperative culture.

"[It is important] to define what it is you really want out of it. And by that, I mean that you also have to... You have to have a certain amount of trust when joining a project."

- *Company representative*

Moreover, informants express that establishing trust is easier when firms are already acquainted, which in turn might have a positive effect on progression.

"[...] this makes it so much easier to cooperate with someone, and it often helps to know the people you are going to cooperate with [...] so you can have a good dialogue and feel that you can trust someone."

- *Company representative*

The informants express that there are many tools that can contribute to building trust and creating a cooperative culture. One example of such a mechanism is to arrange lectures on specific topics.

"One way to build trust, and get the ball in motion, is to invest a little in the beginning where we give away something of value, [...] So, at the beginning of this project we had several academic actors, [...] who gave lectures for the companies, so that they would get the best possible foundation before starting the project. [...] By offering this pre-course everyone got a feeling pretty quickly that "I do not regret that I participate in this, I learn something from good researchers, and I discuss it with colleagues in other companies." [...] So, it's pretty easy to establish trust through knowledge, but it has pretty high value. [...] So, this step is very often the very first step that we use to create a good environment in order to prepare for something that is more challenging. I think this contributes to mitigating the risks."

- *Representative from NCE FI*

Furthermore, in the process of creating a cooperative culture, several informants highlight the importance of ensuring the right mindset among the representatives from member firms. This involves having an open mind and to not think of other firm representatives as competitors.

"So, it is important to have in mind that when you meet up here you meet as competitors, but you should pretend that you are not."

- *Company representative*

"I think it's all about defining a team and working together as a team, and not focusing too much on that aspect [competition]."

- *Company representative*

In an attempt to ensure the right mindset and reduce the hostility among member firms, representatives from NCE FI express that they try to use creative tools to strengthen the cooperative culture.

"We use a lot of tricks, for example we buy T-shirts, with "Finance Innovation" on, and ask if they can wear them. And it's such a surprisingly simple little nudge technique, to say that we are now on the same team. And I have seen with my own eyes that it actually has an effect. It seems a bit cheesy, but it does have an effect."

- *Representative from NCE FI*

Moreover, in the process of *"breaking the ice"* facilitating interdisciplinary teams with frequent meetings, contributes to building trust and creating a cooperative culture among the member firms.

"I think one of the most important assurances against making mistakes here, is actually having interdisciplinary teams. That is very, very important."

- *Representative from NCE FI*

"It is an obvious need for interdisciplinary teams and competence, not internal, but across companies."

- *Representative from NCE FI*

"It is probably about how to facilitate the dialogue in the meetings. It is all very dependent on face-to-face dialogue and conversations, rather than any other tool."

- *Representative from NCE FI*

Furthermore, informants highlight the importance of having a legal party present in the coopetitive relationships to create assurance and a safe framework for coopetition, which in turn contributes to establishing trust.

> *"And I would especially like to highlight law, which is very important when it comes to cooperating with your competitors."*
>
> - *Representative from NCE FI*

It is worth noting that representatives from NCE FI mention that changes in the group formation may affect the established trust and the cooperative culture. In situations where the group formation changes, NCE FI has a crucial role in trying to maintain the established trust by using aforementioned tools.

> *"But then we bring in people who have not previously worked together, who do not have this established trust and who do not understand these ways of working together [...]"*
>
> - *Representative from NCE FI*

Moreover, by using aforementioned tools to establish trust and create a cooperative culture, firms can to a greater extent reap the potential benefits of coopetition. This includes gaining access to complementary resources, building networks and getting inputs from different sources and disciplines.

> *"And at the same time, you probably get some advantages by learning a little from how the competitors work."*
>
> - *Company representative*

> *"So, networking is an important gain, and at the same time professional development. You meet people who sit in completely different disciplines than yourself, [...] So, especially building relationships across [disciplines]."*
>
> - *Company representative*

> *"Because in a way, it's a lot about networking. [...] You create a relationship, and you do it by building trust in these dialogues [with competitors and other member firms]."*
>
> - *Company representative*

> *"Number one, you get to know people who look at problems or topics from different points of view, or from the same point of view in another company. So, you get the opportunity to see things from other people's perspectives."*
>
> - *Company representative*

> *"In other words, competitors are very comprehensive, and the advantage of cooperating is that you sometimes get to know more about what people are doing, what you really need to know. And you can also get inspiration to solve problems in a way that is perhaps smarter than what you had thought of yourself. And this goes both ways."*
>
> - *Company representative*

However, informants also mention that there are potential risks associated with cooperating with competitors, such as the risk of sharing resources.

> *"It keeps you on your toes, right, because it is quite uncomfortable to be the one who talks first about your problems in such a setting, as it can quickly become the case that you expose a weakness that someone later tries to exploit."*
>
> - *Company representative*

> *"Often, they hold their information sacred because it is competition sensitive, or because they do not want to share mistakes or challenges with direct competitors."*
>
> - *Representative from NCE FI*

Nevertheless, we find that establishing trust and creating a cooperative culture are important mechanisms that contribute to mitigating the risks associated with sharing resources.

> *"You create a relationship, and you do it in a way by building, well, trust in these dialogues. So, I'm not sceptical at all about working with someone in the cluster, [...] And what I need in a way is that it is a safe place to work together."*
>
> - *Company representative*

> *"I think that the component of trust in relation to risk has been very important."*
>
> - *Company representative*

Moreover, we find that the amount of risks connected to sharing resources with competitors varies depending on the topic of coopetition.

> *"If in a project you do not have to give up anything, you do not have to reveal any secrets, you do not have to expose yourself to, let's say, transparency or negative actions from your competitors, then the risk is very low."*
>
> - *Company representative*

In other words, the amount of risk connected to cooperating with competitors depends on the sensitivity of the resources they share. For instance, in a project concerning sustainability, the participating firms did not have to share a lot of sensitive resources, and hence, cooperating with competitors was less risky. Conversely, in a project concerning insurance fraud, the involved firms had to share sensitive resources in order to develop a solution to the problem, increasing the risk of cooperating with competitors. This illustrates, as quoted by one of the informants, that "*some of the topics they have to cooperate on are really just difficult by default*." Moreover, we find that cooperating on projects often requires disclosing more sensitive resources compared to working groups because the two cooperative methods are based on different types of commitments. This basically means that cooperating with competitors in working groups entails less risks associated with sharing resources compared to projects.

Furthermore, informants express that different ways to cooperate requires different management methods. To illustrate, challenging projects which involve sharing sensitive resources with competitors will often require a close follow-up from NCE FI as a neutral third party, while projects which involve sharing fewer sensitive resources are more self-propelled. As representatives from NCE FI state:

> *"What we are trying to do is to manage projects and working groups as little as possible and use the smallest amount of resource capacity on managing these coopetitive relationships. Because then we can do as much as possible. So, in a self-propelled project, someone else can be the project manager. [...] So, in the easy projects, it is enough that we participate and facilitate in the background. And then we spend a lot more energy on the difficult cases where we have to drag the car in the right direction a distance ahead."*

- *Representative from NCE FI*

"The most important thing for us is to be a facilitator and to make sure that these projects happen. Very often it means that we are the project manager, but this is just a tool, it is not a goal in itself."

- *Representative from NCE FI*

5.2.4 Ensuring progress

A central challenge in the second phase of managing coopetition is to ensure progress. Informants express that NCE FI has an important role in ensuring progress by being a driving force in the coopetitive relationships.

"[NCE FI] is the one who facilitates, but not least ensures progress, together with the group, of course, but had it not been for the fact that they had taken the initiative and been a driving force, we would not have been as proactive."

- *Company representative*

Several informants highlight the importance of identifying the scope of the problem based on the available resource capacity, setting ground rules as well as defining mutual goals and visions as essential tools to ensure progress, in which NCE FI has a crucial role. One informant also emphasizes the importance of setting a deadline in order to ensure progress in a project. These mechanisms might help to eliminate any inconsistencies and misunderstandings between the parties, avoiding potential inter-firm conflicts.

"[...] it's really about being very clear on the goal of the project. If you have a very clear, well-defined goal of what you are trying to achieve, it is easier to avoid discussions and instead talk about "what are we really trying to achieve?" And I believe that this is important no matter what you do, to have a clear goal and a vision of what you are trying to achieve, and it also takes away some friction."

- *Company representative*

"This is very basic, but it is very important that you have established it from the very beginning. If not, you can experience entering into a cooperative relationship with firms

with different expectations, and I think establishing expectations and defining the purpose of the relationship is very important."

- *Company representative*

"Clarifying "what are we going to get out of it?" is probably the most important thing. [...] The more you clarify, the easier I think it is to get everyone involved."

- *Company representative*

We find that clarifying expectations in working groups is challenging due to the fact that the purpose of these groups is not clearly defined.

"Should we set it up as a meeting place for industry geeks to talk about everything that moves, or should it be a platform for actually creating something of value? So, it is a bit of a challenge figuring out how to set it up."

- *Company representative*

"I think maybe in projects [...] you know the framework, the purpose, and it is easier to understand why you do it. And in this case, it is easier to open up to competitors, because we know that "hey, we have to talk together to achieve this common goal". But if the purpose is a bit "wishy-washy" and you only talk with the intention of sharing experiences and reflections, like in the working groups, one might think "why are we really doing this?", "what is your motivation to open up and reveal your challenges?". As long as the mandate is quite clear and that you have a common goal and you are cooperating because you want to achieve x, y and z, it is easier for competitors not to park the discussion. However, when you are in working groups where the parties have not signed any NDAs or anything like that, you are obviously a little more careful about what is being said."

- *Company representative*

In addition to clarifying goals and visions, facilitating interdisciplinary teams is an important tool to ensure progress. NCE FI usually orchestrates interdisciplinary teams consisting of participating firms as well as involving a legal firm and a technological firm. Including these firms in a team makes it easier to solve issues and clarify misunderstandings straightaway. To exemplify, a legal firm or a technological firm can easily provide inputs and make suggestions without any delay if they both are present in the same meeting. Consequently, communication flow, coordination and technological development can become more efficient.

> *"So, what is incredibly important with interdisciplinary teams, it's that it's an overhead cost, but that's exactly what makes you get a profit that is better than if you first talk to the business side, and then to IT. [...] So, interdisciplinary teams really short-circuits it [the process] by iteratively making decisions on what we want to do, if we can do it, if we are allowed to do it, over and over again, until you have scoped it."*
>
> - *Representative from NCE FI*

The view is also supported by member firms:

> *"So, the coordination we can do around a table in this cluster project makes it [the process] more effective."*
>
> - *Company representative*

Informants also highlight that gaining access to funding is a central tool that can contribute to ensuring progress.

> *"The most obvious benefit was funding. The funding from Innovation Norway removed all financial risk, which made prioritizing it [the project] extremely easy."*
>
> - *Company representative*

Representatives from NCE FI confirm that gaining access to funding is a central benefit of being a member of the cluster, and that facilitating this opportunity is an important part of NCE FI's role.

> *"For example, we help all companies in the cluster with funding opportunities [...], but the incumbents have a large number of opportunities they do not know about, and it is our job to inform them."*
>
> - *Representative from NCE FI*

5.2.5 Handling inter-firm conflicts

Several informants highlight conflicting priorities as a central risk of cooperating with competitors. This risk concerns the situation in which participating firms differ in how they prioritize work related to the coopetitive relationships which can affect the progress. Moreover, conflicting priorities can lead to the risk of firms spending valuable resources on projects and not getting any value in return which can cause frustration resulting in inter-firm conflicts. Representatives from NCE FI note that the risk of experiencing conflicting priorities is closely connected to whether the top management of a member firm has explicitly expressed the importance of engaging in a coopetitive relationship as well as depending on the topic of coopetititon.

> *"What we experience is that unless the top management, in other words the CEO, has said "okay, this is something you should prioritize" [...] It is easy to notice who has received that message and who has not received that message. So, when we initiate such projects, especially the projects because it requires an incredible amount of time, then this message must come from the top management, we mean, for the project to be successful."*
>
> - *Representative from NCE FI*

> *"We have a very strong focus on sustainability, and prioritizing sustainability is not very difficult. And at the same time, there are regulatory requirements we have to meet in order to be compliant, so this was not very difficult."*
>
> - *Company representative*

In order to encourage the top management to prioritize coopetitive relationships, especially when cooperating on topics that are not closely connected to the firm's core activities, we find that NCE FI uses the same incentivizing tools as mentioned in previous sub-sections. This involves expressing the benefits of *"expanding the pie"*, using the FOMO effect and the firms' underlying desire to become better.

In situations where firms experience conflicting priorities, NCE FI intervene by acting as a mediator. This involves following up on deadlines and facilitating constructive dialogue with the participating firms in one-to-one meetings. These tools contribute to creating a common understanding of the situation avoiding potential inter-firm conflicts.

> *"So, things that are talked about in the projects are often nice and great and you come to an agreement, but there is always something going on in the back room when you talk to the actors one-to-one."*
>
> - *Representative from NCE FI*

> *"[...] even though they become members of Finance Innovation and work on projects that are prioritized by the companies, they do a lot of other things as well. So, it's about us not forcing the companies to work. This is our day job, but not [member firm]'s day job, so we see that sometimes we may have to help them a little with meeting deadlines or follow them up a little more. And also, if a company has done the job and other companies have not done it, then there is a bit of an imbalance, which results in less trust. Then Finance Innovation intervenes and tries to, not necessarily sort it out, but tries to find out what has happened. If, for example, there is a technical problem, [...] Then it is better for FI to intervene than the partnering company."*
>
> - *Representative from NCE FI*

As expressed by representatives from NCE FI, conflicting priorities can also be explained as differences in resource capacity.

> *"I think this can be, or has been, frustrating in some projects, that someone is not able to deliver on time. And I think this is based on resources capacity in the organization. Smaller companies will have less resources than a large company, of course, and will be less able to deliver."*
>
> - *Representative from NCE FI*

> *"What is really a classic challenge is when one of those who are involved in the projects is stretched in terms of capacity in something they are doing internally versus something they are doing in this joint arena.[...] If they have to choose to satisfy that regime versus this, then they will often come to the conclusion that it is better for them to focus on the internal. [...] To solve this issue, we try to put things into words and be open about it. We help them to put it into words to the other firms, so that the others do not think that this is due to lack of interest."*
>
> - *Representative from NCE FI*

Moreover, NCE FI explains that the risk of experiencing conflicting priorities might be a consequence of firms treating work related to the cluster as *"secondary"*.

> *"Strictly speaking, all the KPIs, all the goals, all the reward systems in the companies they work for are set up to reward things that have nothing to do with this project. So, in everyday life, when they have to wonder if they should spend time on something, it is typically a challenge for us that our projects become an additional thing."*
>
> - *Representative from NCE FI*

This view is also explained and supported by one of the informants from the member firms.

> *"If it is the case that there is a lot going on internally, and we have to prioritize some customer activities, the internal operations always come first. And this could potentially lead to looking at external projects as a side business, that is, something that is not really prioritized."*
>
> - *Company representative*

Despite using several tools to avoid conflicting priorities, NCE FI express that they are limited in their actions due to lack of control and authority. Consequently, NCE FI cannot force the firms to allocate resources towards the coopetitive relationships.

> *"So, just to understand how the resource situation is in the various companies at any given time and try to influence it in a way that makes them prioritize these external projects to a large enough degree. [...] It is our job to do this, but at the same time we also have limited tools to do it."*
>
> - *Representatives from NCE FI*

> *"And then again, we cannot do anything about it, we cannot say that you have to do something about it and show up [...]."*
>
> - *Representative from NCE FI*

However, NCE FI makes it clear that if a firm does not contribute to a project over time, they threaten to replace them with someone else. With this threat, NCE FI attempts to strengthen the FOMO effect.

“A project should deliver something very concrete. So, if a company does not contribute, everyone loses. So, we are quite strict, in the administration, that if you are involved in a project, you should actually contribute your time. And if you do not contribute, then you are actually out of the project. It has to be like that because it’s simply not fair (laughs) to the others.”

- *Representative from NCE FI*

“But what we do is that we tell them that if you cannot join, we will replace you. And that's how it has to be. And then the firms think “we may have to show up then (laughs)”, because they often have a “fear of missing out” if they are not included. And we use this a lot, that if you are not involved then you can actually miss something here that can be useful for further business development [...]”

- *Representative from NCE FI*

5.2.6 Ensuring compliance with regulations

Despite the challenges and tensions that dominate the coopetitive relationship in the first two phases, once trust is established and the firms have started working together, the challenge is to make sure that the firms do not cooperate too much. This is expressed by representatives from NCE FI:

"What is interesting is that when you have broken it [the ice] and become colleagues, the challenge is actually to make sure that you do not say or do something that the Competition Authority does not think is okay. So, in the beginning the challenge is to get them [the firms] to cooperate, but very quickly, if you succeed, then the challenge is to make sure that you do not cooperate too much.”

- *Representative from NCE FI*

A central tool to balance cooperation is to involve a legal party in the coopetitive relationship. The legal party, along with NCE FI, is responsible for monitoring what the member firms share and making sure that the coopetitive activities are within the boundaries of the law. As such, involving a legal party is essential to ensure successful coopetition.

“So, it was absolutely crucial, and [firm] brings in law, both on GDPR, privacy and competition law rules.”

- *Representative from NCE FI*

5.2.7 Ensuring cooperation to the end

The informants from NCE FI also state that one of the challenges with managing coopetition is making sure the partnering firms cooperate all the way to the end. In other words, in the last phase, the challenge is to make sure that the firms cross the finish line together. In addition to strengthening the cooperative culture, representatives from NCE FI express that a central tool to ensure that the firms cooperate to the end is to involve a legal party.

> *"When it comes to reaping the potential benefits, it is all about cooperating to the end, that no one gives up along the way, and that no one runs to the finish line before the others."*
>
> - *Representative from NCE FI*

> *"And what I've seen several times is a tendency to ... imagine the Tour de France. The cyclists' cycle in a group all the time due to less air resistance, so it is about 20% easier than cycling alone. So, it's very, very wise to cycle in a cluster. And just before the finish line, there are some cyclists who break out of the cluster because they want to win, right? So, they use the cluster as support and then they break out of it and win. And the same goes for our projects. They work together for all these reasons that we have talked about, but they want to be the first to go to the newspaper and say that "we have succeeded in this and that". [...] So, what is a typical challenge for us, is not really to keep them together throughout the project, but there is a significant challenge right before the finish line. Because at this point, they suddenly remember that they are competitors and that they want their name to appear in the newspaper, rather than the competitor's name. So, we have had several challenges with this, even though we have agreed that we will cross the finish line together because we are actually competing with all the others who were not on the project. But they forget it right before reaching the goal, and therefore it is important to have someone like us, and preferably also a legal partner, who can remind the firms that we agreed on this, and that it is still important, and that there are good reasons for why we agreed on this, so that we can guide everyone over the finish line at the same time. This way, we also make sure that no one feels that "we came out of it badly. We were cooperating and then they suddenly*

stuck their heads out in the end, and now I certainly do not want to be part of the next project". Because that's the problem if we do not succeed with this."

- *Representative from NCE FI*

"One central challenge, for example, is when we have completed or worked on a project, they [the involved firms] have often agreed that, okay, now we have worked together on something, but no one can go out in the media (laughs) and express that this is something Bank A has done, because you have actually done it with Bank B and C as well. And this is actually something we have experienced a couple of times, that some companies have a very great need to tell the world about their success in a project. And hence, this has caused some tension among the players or competitors."

- *Representative from NCE FI*

The representatives from NCE FI also mention that a central tool for handling this challenge is to facilitate constructive dialogue between the participating firms before approaching the finishing line.

"First of all, we just put it into words. We know these mechanisms, we talk about it, and we just put it on the table. [...] And we talk about it increasingly at the end, that "it is important to launch this in the media in a coordinated and sensible way, so everyone can benefit from it". In some projects we have legal contracts, and there are mechanisms there that regulate these challenges, but we do not really want to use those contracts. It is better to reward than punish."

- *Representative from NCE FI*

Moreover, the informants refer back to game theory with multiple games as an underlying tool to avoid destructive behaviour and to motivate future coopetitive relationships.

"If you can think of this as game theory, but with more games ... Taking advantage of the fact that if they [the firms] see the synergies of doing this, then they will, purely logically, want to behave in a way so that they can continue to play the game. [...] So, it is in a way quite logical. So, those are the mechanisms we are trying to use, because in a way these are the mechanisms we have available."

- *Representative from NCE FI*

> *"And at the very end, it is all about making sure that no one coups and runs to the finish line on their own, or decides that they should own the product [...] So, we want to make sure that they feel like "okay, I'm glad I did this because I did something I had not managed alone, and I did not lose anything, so therefore I want to do it again". So, then you get a positive spiral, where open innovation is an important part of the business strategy just like internal innovation."*
>
> - *Representative from NCE FI*

As stated in the quotation above, the informants also mention ownership as a central challenge in the final phase of coopetition; who has the right to own the product that has been created? It is expressed that in a normal unilateral business context, the company itself would own the product. In this context however, ownership is an open question. Informants from NCE FI emphasize that the challenge of ownership is often solved by taking the customer into account - who is best equipped to own the product? The answer could be the developer of the technical solution, the customers, one of the involved firms or a neutral party like NCE FI.

6.0 Discussion

In this section, we will elaborate on how our empirical findings support and complement existing literature. We will start by briefly discussing the role of NCE FI, followed by a discussion on how to manage the challenges and tensions that may arise in coopetitive relationships.

6.1 Managing coopetition

Overall, we find that having a neutral third party like NCE FI is beneficial and crucial for a coopetitive relationship to work. NCE FI has an important role in facilitating an arena for interaction between member firms in order to motivate coopetitive relationships as well as managing challenges and tensions that may arise. In other words, NCE FI operates as a buffer in the dynamic interplay between competition and cooperation, thus balancing the relationship between the rival firms. As such, NCE FI creates a safe framework for coopetition which is essential to ensure successful coopetition.

However, we find that the role of NCE FI as a neutral third party varies depending on the complexity of the coopetitive relationships. When competitors are cooperating on topics that are closely connected to the firm's core activities, the process becomes more complex. The complexity is explained by the fact that firms are more reluctant to share sensitive resources in fear of losing core knowledge to their competitors which may have a negative effect on the firm's competitive advantage. The complexity also makes it difficult to establish trust. These complex relationships require a close follow-up from NCE FI in order to balance the relationship between the competitors. Contrarily, we find that situations where firms are cooperating on non-core topics are less complex, requiring less involvement from a third party. In these situations, NCE FI can take on a passive role, passing the responsibility of being a facilitator to one of the involved firms. As such, NCE FI adjusts their resource allocation based on the complexity in order to maximize their potential as a neutral third party facilitator.

We also find that NCE FI has limitations in their ability to manage coopetition. This is due to lack of authority and control to demand the firms to engage, commit and contribute in the coopetitive relationships. Consequently, NCE FI must manage coopetitive relationships through other managerial mechanisms.

Based on our empirical data, we have divided the process of cooperating with competitors into three phases, where each phase involves different challenges and tensions. The first phase involves motivating firms to engage in coopetitive relationships, identifying potential risks and challenges, building trust and creating a cooperative culture. Following, the second phase involves ensuring progress and handling inter-firm conflicts. The third phase involves ensuring compliance with regulations and making sure the firms cooperate to the end. In the following we will elaborate on these phases as well as presenting managerial mechanisms and supporting tools that are important in order to manage the challenges and tensions that may arise in coopetitive relationships.

6.1.1 First phase of coopetition

According to Nesse (2018) there are three important mechanisms for cooperation. This includes getting the firms to *accept* the demand for coopetition and *encourage* coopetitive relationships by creating incentives to participate as well as *facilitate* a neutral cooperative platform as neutral third parties are essential in creating a secure framework for cooperation (Nesse, 2018). We find that these mechanisms are indeed important in the first phase of coopetition in order to encourage the member firms to cooperate. However, there are several challenges related to motivating the firms to cooperate due to the lack of traditional incentivising mechanisms. Nevertheless, we find that NCE FI uses alternative tools to encourage firms to engage in coopetitive relationships. This involves using the firms' underlying desire to become better as well as creating *"a fear of missing out"* effect among member firms. Moreover, representatives from NCE FI facilitate workshops and explicitly express the potential benefits of *"expanding the pie"* in order to motivate and incentivise coopetition.

Moreover, we find that identifying potential risks and challenges that may arise in a coopetitive relationship is an important part of the first phase of coopetition. This involves planning as much as possible in advance by getting to know the participating firms in one-to-one meetings and analysing how things might unfold, in order to prepare for challenges and tensions that may arise.

Literature on coopetition identifies the importance of building trust to manage the paradoxical tensions that may arise in this context (Nesse, 2018; Cygler & Sroka, 2017; Raza-Ullah & Kostis, 2019; Quintana-Garcia & Benavides-Velasco, 2004). Supporting the literature, our empirical findings show that trust is indeed an important success factor when establishing inter-firm relationships. We find that NCE FI uses several tools to establish trust among the member firms. This includes inviting firms to lectures and facilitating interdisciplinary teams in order to create an arena for learning and establish a common knowledge base (Quintana-Garcia & Benavides-Velasco, 2004).

In addition to establishing trust, we also find that creating a cooperative culture among the member firms contributes to ensure successful coopetition. We find that having a cooperative mindset and focusing on meeting the participants as humans rather than firm representatives contributes to foster constructive dialogue hence strengthening the cooperative culture. NCE FI attempts to create a cooperative mindset among the firm representatives by using several creative tools, such as making the participants wear the same T-shirts. Moreover, NCE FI attempts to build a cooperative culture by facilitating frequent meetings with the purpose of encouraging and incentivising participating firms to commit. The cooperative culture is further strengthened by the actions of the participating firms. To exemplify, we find that meeting expectations and allocating resources towards the coopetitive relationship show encouragement and have a positive effect on the working environment. However, we find that the member firms could benefit even more from coopetition if NCE FI were more open about ongoing activities in the cluster. This could provide greater insight into different topics and hence contribute to enhancing learning across different coopetitive groups, presumably resulting in a stronger cooperative culture.

Furthermore, we find that it is easier to establish trust and encourage coopetition between firms who are already acquainted. Consequently, coopetitive relationships between firms that are acquainted will enjoy faster progression and possibly greater success. These findings support the importance of building a cooperative culture in the cluster by connecting firms and facilitating interaction, also across different coopetitive groups. As such, building informal relationships by using NCE FI as a platform for interaction can be used as a tool to strengthen the trust and the cooperative culture between member firms.

We also find that establishing trust and creating a cooperative culture can contribute to mitigating the potential risks of coopetition. According to literature on coopetition, one of the main benefits of engaging in coopetitive relationships is gaining access to valuable resources (Gnyawali & Park, 2009; Bouncken & Kraus, 2013). However, scholars identify several risks of sharing resources with competitors, such as asymmetry and opportunistic behaviour (Cygler et al., 2018; Lado et al., 1997; Haugland, 1996; Ritala & Hurmelinna-Laukkanen, 2009). This is due to the high frequency of knowledge flows between the involved parties. Moreover, transaction cost theory claims that the possibility of failure is higher when the firms are direct competitors because incentives to act opportunistically can motivate actions that undermine cooperative agreements (Quintana-Garcia & Benavides-Velasco, 2004). Our empirical findings support the theory as we find that one of the biggest challenges with coopetition is managing the tensions that may arise when firms share resources with competitors (Nesse, 2018). This might explain why firms are often reluctant to share valuable resources with their competitors, especially in the first phase. Consequently, this may prevent progress and result in the risk of a zero-sum game (Cygler et al., 2018). Nevertheless, we find that establishing trust and creating a cooperative culture might mitigate the potential risks associated with sharing resources. By establishing trust, firms can to a greater extent reap the potential benefits resulting from the positive synergies of sharing joint resources and gain access to resources which are otherwise difficult to acquire (Bouncken et al., 2015; Cygler & Sroka, 2017). This is supported by literature suggesting that trust is an intervening mechanism that can undermine opportunistic behaviour and reduce the risks of exploitation (Raza-Ullah & Kostis, 2019; Cygler & Sroka, 2017). Moreover, the participating firms are protected from opportunistic behaviour to a certain extent by the practical implications of game theory (Brandenburger & Nalebuff, 1996). With this we mean that firms are less motivated to act opportunistically or behave badly when aware that this will have severe consequences for future coopetitive relationships.

We also find that the willingness to share resources with competitors varies depending on the sensitivity. In projects that do not require sharing sensitive resources, we find that there is less risk of being exploited. Hence, firms are more willing to cooperate. Conversely, in projects that require sharing sensitive resources closely connected to core activities, firms are more reluctant to share data with competitors. Consequently, it becomes more difficult to establish trust and ensure progress. It is also worth noting that engaging in working groups with competitors often requires sharing fewer sensitive resources in comparison to projects, due to the different purposes of the two cooperative methods.

6.1.2 Second phase of coopetition

The second phase of coopetition involves ensuring progress. NCE FI has a crucial role in ensuring progress by facilitating constructive meetings with the involved firms to define mutual goals and visions and to avoid any incongruencies or misunderstandings. In addition, we find that setting a deadline as well as agreeing on ground rules, contributes to creating a common understanding and ensuring progress. However, based on collected data we find that member firms could benefit from the coopetitive relationships to a greater extent if NCE FI took on a more dominating role in ensuring progress by helping define mutual goals and visions in projects and working groups. The importance of creating a common understanding supports the views of Lado et al. (1997) and Kogut (1998) which state that coopetitive relationships may fail to generate benefits when the firms have incongruent goals, priorities and expectations. Incongruencies might lead to mistrust and misunderstandings causing inter-firm conflicts (Lado et al., 1997). Defining mutual goals and visions before entering into the coopetitive relationship is therefore crucial in order to reap the potential benefits of coopetition (Lado et al., 1997). It is also worth noting that we experience that having the same firm representatives involved throughout the process is essential in maintaining the established trust and ensuring progress as a change in the group formation may have a negative effect on the dynamics.

We find that clarifying expectations is more challenging in working groups compared to projects presumably because the two cooperative methods have different purposes and are based on different types of commitments. Working groups seem to function as *"chit-chat"*-sessions where the main goal is to get insight into the market and discuss universal problems with competitors. However, the main objective in projects is to develop solutions to a problem in a given time which requires clarification of expectations to ensure progress. We experience some frustration among informants regarding incongruent goals in the working groups. Based on these findings, we conclude that defining mutual goals and visions is essential to establish trust, create a cooperative culture and ensure progress.

Current literature emphasizes that coopetition can result in several economic benefits (Chin et al., 2008; Lou, 2007; Morris et al., 2007; Jones & Hill, 1996). However, we find that member firms mostly mention the intangible benefits of coopetition such as access to knowledge, competences and networking rather than potential tangible benefits. Hence, we believe that economic benefits are not the main incentives for why firms engage in coopetitive relationships. Nevertheless, we find that access to funding through NCE FI contributes to ensure progress because it eliminates potential financial risks. Consequently, we identify funding as an important benefit. However, we consider funding as a central benefit of being a member of a cluster rather than a benefit of engaging in a coopetitive relationship.

Supporting theory, we find that conflicting priorities and differences in resource capacity can lead to inter-firm conflicts and lack of progress (Lado et al., 1997; Kogut 1998; Kanter, 1998). Firms will often have to prioritize internal operations which means that the coopetitive relationship is treated as a *"side business"*. Because projects and working groups are primarily governed by the firms' willingness to contribute, we find that managing coopetition in situations with conflicting priorities and differences in resource capacity is especially challenging. This is primarily because NCE FI cannot force firms to commit or put pressure on the firms due to lack of authority and control. However, despite this, NCE FI has an essential role in using other mechanisms to *handle emotions* and *mediate* between the firms (Nesse, 2018). This involves being aware of the challenges and tensions that may arise between the firms due to conflicting priorities and differences in resources capacity, facilitating meetings to ensure constructive dialogue, creating a common understanding of the strained firms' resource situation as well as trying to maintain the trust and interest among the involved firms. This, in turn, will contribute to strengthening the cooperative culture and ensure progress.

Nevertheless, it is worth noting that the risk of experiencing conflicting priorities and differences in resource capacity depends on the topic of the coopetitive relationships. When cooperating on topics closely connected to core activities, we find that firms often prioritize allocating resources. As such, there is less risk of experiencing conflicting priorities and differences in resources capacity. Contrarily, when cooperating on non-core topics, the risk of experiencing conflicting priorities is higher.

6.1.3 Third phase of coopetition

In the third and final phase we find that there is a potential risk of the firms cooperating too much. In accordance with relevant theory, we find that engaging in coopetitive relationships involves cooperating on creating value and in turn competing to capture the value created. However, as proposed by current literature, this tension is difficult to balance (Hannah & Eisenhardt, 2018). Based on our data collection, we find that the involved firms actively try to maintain an even balance by drawing a clear line between cooperation and competition. However, because it is difficult to balance this dynamic interplay, firms tend to either cooperate or compete too much. In the beginning of the project, competition is usually dominant due to lack of trust and fear of potential risks. However, once trust is established, there is a potential risk of cooperating too much. We find that the act of balancing this tension is one of NCE FI's main functions, often assisted by a legal party. Their role is to monitor what the firms share as well as making sure that whatever they share is in compliance with competition regulations. Hence, on the one hand NCE FI has to balance the coopetitive relationship by facilitating cooperation, but on the other hand has to make sure that the firms do not cooperate too much.

In addition to assisting NCE FI in ensuring compliance with competition regulations, the legal party is crucial when it comes to creating a secure framework for coopetition. More precisely, this involves drawing up agreements between the involved parties. According to Nesse (2018) establishing legal contracts to regulate coopetition is criticized. This is due to the fact that contractual clauses might limit a firm's autonomy and may therefore prevent firms from wanting to engage in inter-firm relationships. This is also supported by other scholars emphasizing that loss of autonomy becomes the price of functioning in a coopetitive relationship (Cygler & Sroka, 2017; Cygler et al., 2018). However, we find that having a legal agreement between the competitors is an important tool to establishing trust and creating a sense of assurance which contribute to creating a safe framework for coopetition. The safe framework for coopetition is further strengthened by having a neutral legal party responsible for drawing up agreements instead of involving the firms' own lawyers. Nevertheless, we believe that having a legal agreement safeguarding the coopetitive relationship is only constructive when it is used as an underlying and supporting tool. Because none of the informants mention loss of autonomy as prominent risks of coopetition, we conclude that this risk does not affect the firms to a large extent. However, it is worth questioning whether NCE FI's role as a mediator protects the firms from achieving domination, which might explain why loss of autonomy is not mentioned as a prominent risk. Overall, we find that having a neutral legal party present in the coopetitive relationship is essential to establish trust. Moreover, as mentioned in the previous subsection we find that the legal party also has an important facilitator role along with NCE FI in some projects and working groups. Hence, we find that non-central roles also have a significant impact on the success of managing coopetition.

A central management challenge in the third phase is to make sure that the parties involved in a project cross the finish line together. In other words, making sure no one launches the final product or speaks to the media unless this is explicitly agreed upon. Becoming less committed to maintaining the cooperative agreements and the increasing need to strive for domination once the goal is achieved, are also highlighted by theory as central risks of cooperating with competitors (Bouncken et al., 2015; Lado et al., 1997). We also identify that another challenge involves clarifying who is best equipped to own the final product. If not explicitly agreed upon in contractual clauses, informants highlight that this can trigger inter-firm conflicts in the final phase. Due to lack of authority, NCE FI uses constructive dialogue extensively before reaching the final phase in order to ensure a common understanding of the process and to avoid potential disputes. The legal agreements can also function as a tool to control the actions of the involved firms at this stage, but this is not desirable. Another important tool to control the actions of the firms in the final phase is the underlying desire to behave well due to the implications of game theory. Hence, based on our empirical studies, we find that NCE FI plays an important role in facilitating constructive dialogue in the final phase of coopetition in order to motivate future coopetitive relationships.

6.2 Summary

To summarize, we have visualized our findings in an empirical model. The model illustrates the three phases of coopetition and the different managerial mechanisms that are important in order to handle the dynamic interplay between cooperation and competition. The model also illustrates the intersection where firms move from having cooperated on solving a universal problem to becoming rivals again competing to capture value on the customer side. Nevertheless, it is worth noting that this is a simplified model attempting to illustrate the process of cooperating with competitors. Thus, the model is not representative of every coopetitive relationship as several factors may vary depending on the context.

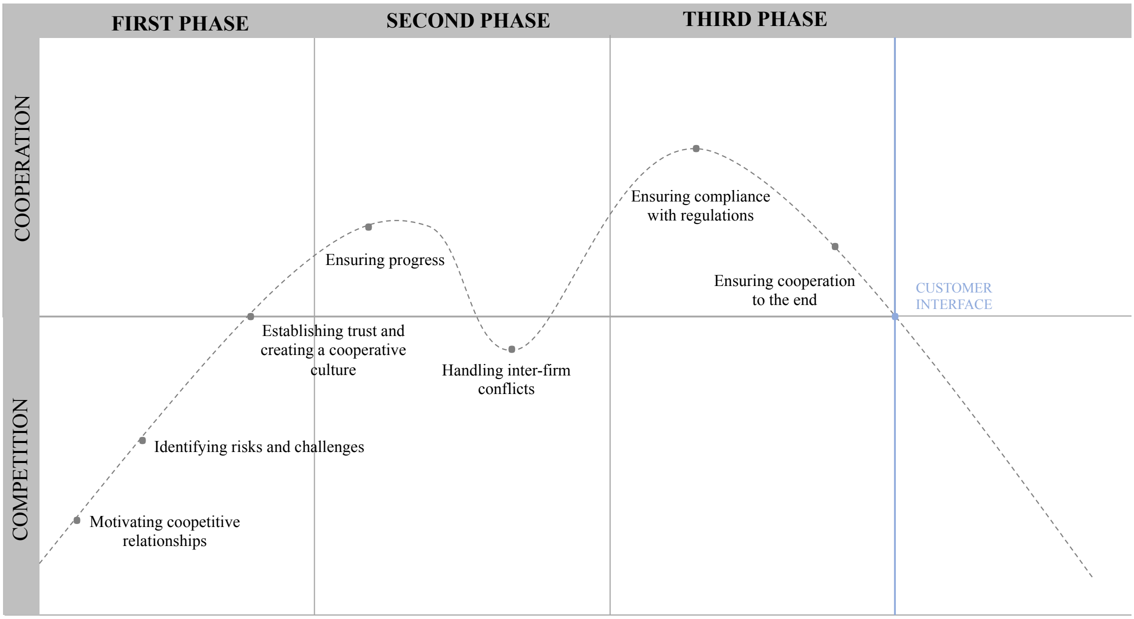


Figure 3: Empirical model

7.0 Conclusion

In the final section of our thesis we will conclude on the main findings and the theoretical contributions of this research, followed by suggestions for future research and discussions on research limitations.

The objective of this research was to examine the concept of coopetition and how a neutral third party can manage coopetitive relationships. Our study therefore addressed the following research question:

"Which mechanisms are relevant in order for a neutral third party to manage coopetitive relationships?"

To answer this research question, we have reviewed existing literature on the concept of coopetition. This included exploring potential benefits and risks of coopetition in order to create a deeper understanding of how to manage the challenges and tensions that may arise in a coopetitive relationship. We have conducted nine semi-structured in-depth interviews with representatives from NCE FI and member firms to get a broader insight into coopetition and how this concept is managed in both working groups and projects.

Overall, we find that having a neutral third party like NCE FI is crucial for a coopetitive relationship to work. NCE FI has an important role in facilitating an arena for interaction between member firms as well as balancing the coopetitive relationship by managing the challenges and tensions that may arise in this context. As such, NCE FI operates as a buffer in the dynamic interplay between competition and cooperation hence creating a safe framework for coopetition.

Our empirical findings show that the process of cooperating with competitors can be divided into three phases. The first phase involves managerial mechanisms such as motivating coopetitive relationships, identifying potential risks and challenges, building trust and creating a cooperative culture. The second phase involves managing risks and challenges to ensure progress and handling inter-firm conflicts. The third phase involves making sure coopetitive activities are in compliance with regulations in addition to ensuring that the firms cooperate to the end.

In the first phase of coopetition we find that facilitating workshops, using the firms' underlying desire to become better and the FOMO effect are important tools to motivate and incentivise coopetitive relationships. Moreover, by getting to know the firms in one-to-one meetings, NCE FI attempts to identify and prepare for potential risks and challenges. We also find that tools such as arranging lectures, ensuring the right mindset among as well as facilitating interdisciplinary teams, contribute to establishing trust and creating a cooperative culture. These mechanisms are important in order to mitigate the risks associated with sharing resources and hence ensure successful coopetition.

In the second phase of coopetition, we find that setting ground rules, identifying the scope of the relationship and defining mutual goals and visions are the most prominent tools in order to ensure progress. Furthermore, we find that tools such as facilitating constructive dialogue and handling emotions are essential in order to handle inter-firm conflicts deriving from conflicting priorities and differences in resource capacity.

In the third and final phase we find that involving a legal party in the coopetitive relationships is an important tool to ensure compliance with regulations as well as create a safe framework for coopetition. Hence, we find that non-central roles also have a significant impact on the success of managing coopetition. Additionally, we find that NCE FI has an important role in facilitating constructive dialogue to ensure that the firms cooperate to the end.

With these findings, we hope to extend existing literature on how to manage coopetition. More precisely, we hope that our findings contribute to existing literature by suggesting how a neutral third party can use important mechanisms to manage coopetitive relationships. This involves creating a cooperative culture, ensuring progress and making sure the firms cooperate to the end. Additionally, supporting current literature, we highlight the importance of motivating coopetition, handling inter firm-conflicts, establishing trust, and ensuring compliance with regulations to ensure successful coopetition. The practical implications of our study suggest using the managerial mechanisms presented in an attempt to manage the tensions caused by the two paradoxical logics of interaction. We hope that our findings can propose a guideline for entities managing coopetitive relationships, both in the formation of clusters and other contextual settings.

Based on our findings we have identified potential areas for future research. We find that researching coopetition in another industry or context would be interesting in order to compare findings. Researching this topic in another setting could create more generalised findings as well as give a broader understanding on how to manage the challenges and tensions that may arise in a coopetitive relationship. Additionally, it would be interesting to further research the significance of having a neutral third party present in a coopetitive context.

In our study we mention the importance of using interdisciplinary teams as a tool in order to solve complex problems. It would be interesting to look at this tool in depth, for example by researching how gaining access to complementary resources through interdisciplinary teams can create better solutions. Furthermore, looking at group dynamics in the context of coopetition is a potential area for further research. This could involve researching how the inclusion of a new firm affects the established trust and dynamics in the group, how to motivate and incentivise a new firm to contribute, and how to ensure progress in this setting.

Finally, we would like to point out some potential limitations of our research. The first limitation concerns the fact that our research consists of interviews with a limited number of informants expressing their experiences of the concept of coopetition. Hence, our data consists primarily of information about the informants' perceptions of coopetition rather than objective data. Because we only interviewed a limited number of people from projects and working groups, the findings may not be sufficiently representative. In order for the findings to be generalisable, further research on this topic is needed. Moreover, the interviews were conducted digitally on Microsoft Teams due to variations in geographical locations which might have affected the responses. However, it is difficult to validate if conducting interviews in-person could have resulted in a different data collection.

Additionally, another limitation concerns the amount of literature on managing coopetition. Because current literature on how to manage coopetition is limited, existing research does not provide sufficient basis for comparison. Moreover, it is worth noting that we have studied rather small constellations of coopetition, meaning that the managerial mechanisms we find in our study may not be representative in larger constellations or in other contexts. In order to generalise the findings, further research is needed.

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9.0 Appendix

Appendix 1: Interview guide for representatives from NCE FI

Intervjuguide 1: ansatte i NCE Finance Innovation

Formålet med dette intervjuet er å få informant til å beskrive relasjonene mellom samarbeid og konkurranse blant medlemsbedriftene i klyngen, samt beskrive hvordan klyngen tilrettelegger for håndtering av samkonkurranse.

Introduksjon

Ønske velkommen, presentere oss og takke for at vedkommende er villig til å delta på intervju. Informere kort om masteroppgaven, samt intervjuets formål og hensikt.

Bakgrunnsopplysninger

1. Navn og alder på informant
2. Hvilken stilling/funksjon har du?
3. Hva er dine arbeidsoppgaver?

Fordeler og risiko ved samkonkurranse

4. Vil du fortelle litt om NCE FI og klyngens funksjon?
5. Hvilke fordeler tror du bedriftene opplever som følge av å samarbeide med konkurrenter på prosjekter initiert av NCE FI?
6. Hvordan jobber dere i NCE FI for å tilrettelegge for disse fordelene?
7. Hvilke utfordringer/risiko tror du bedriftene opplever som følge av å samarbeide med konkurrenter på prosjekter initiert av NCE FI?
8. Hvordan jobber dere i NCE FI for å unngå/begrense disse utfordringene?

Styring og ledelse av samkonkurranse

9. Hvordan tilrettelegger NCE FI for samarbeid mellom medlemsbedriftene?
10. Hvordan vurderer dere hvert prosjekt og hva baseres de ulike avgjørelsene på?
11. Tror du at samarbeidet blir påvirket av at medlemsbedriftene er konkurrenter? Isåfall, på hvilken måte?

12. Hvordan håndterer dere spenningen mellom konkurranse og samarbeid mellom medlemsbedriftene, og hvordan utøver dere ledelse overfor medlemsbedriftene i denne konteksten?
13. Hva tror du er viktig for å kunne høste gevinster og redusere ulemper når det foregår samarbeid mellom konkurrenter?
14. Varierer håndteringen og ledelsen av samarbeid og konkurranse mellom prosjekter? Dersom dette er tilfelle, kom gjerne med konkrete eksempler.
15. Hvordan ser typisk utviklingen av samarbeid og konkurranse ut underveis i prosessen? Og vil dette variere mellom prosjekter?
16. Hvilke typiske suksessfaktorer ligger bak et vellykket samarbeid mellom konkurrenter?

Avsluttende spørsmål

17. Er det noe du har lyst til å legge til, endre eller utdype?
18. Har du noen spørsmål til oss?

Vi informerer nok en gang om at all data vil anonymiseres og slettes etter at sensur foreligger. Videre informerer vi om at dersom informant skulle angre seg i ettertid har vedkommende all rett til å få data slettet. Vi vil også spørre om det er greit med mailkorrespondanse i etterkant av intervjuet dersom vi skulle ha spørsmål, og takke nok en gang for deltakelse.

Appendix 2: Interview guide for representatives from member firms

Intervjuguide 2: ansatte i medlemsbedrifter

Formålet med dette intervjuet er å få informant til å beskrive sin opplevelse av relasjonen mellom samarbeid og konkurranse i prosjekter initiert av klyngen, samt beskrive hvordan ledelse utøves i denne konteksten.

Introduksjon

Ønske velkommen, presentere oss og takke for at vedkommende er villig til å delta på intervju. Informere kort om masteroppgaven, samt intervjuets formål og hensikt.

Bakgrunnsopplysninger

1. Navn og alder på informant
2. Hvilken stilling/funksjon har du i din bedrift?
3. Hvorfor valgte [bedrift] å bli en del av NCE FI?
4. Hvilke prosjekter har [bedrift] vært med på, og hvilke arbeidsoppgaver hadde du i forbindelse med dette?

Fordeler og risiko

5. Hvilke fordeler opplever dere som følge av å samarbeide med konkurrenter på prosjekter initiert av NCE FI, og hvilken betydning har dette for deres bedrift?
6. Hvilke utfordringer/risiko opplever dere som følge av å samarbeide med konkurrenter på prosjekter initiert av NCE FI, og hvilken betydning har dette for deres bedrift?
7. Hvordan oppleves det å samarbeide med medlemsbedrifter på prosjekter initiert av NCE FI kontra å samarbeide med bedrifter utenfor klyngen?

Styring og ledelse av samkonkurranse

8. Hvilke forventninger og forpliktelser hadde dere knyttet til prosjektet i forkant?
9. Hvordan ble det tilrettelagt for samarbeid i prosjektet?
10. Hvordan opplever du at konkurranse mellom bedriftene påvirker samarbeidet med de andre medlemsbedriftene i NCE FI?
11. I hvilken grad, og på hvilken måte, opplever du at samkonkurranse forekommer mellom medlemsbedriftene?

12. Hvordan håndteres spenningen mellom konkurranse og samarbeid mellom deltakende medlemsbedrifter, og hvordan utøves ledelse overfor medlemsbedriftene i denne konteksten?
13. Kan du gi et eller flere konkrete eksempler på hvordan konkurranse og samarbeid har foregått på samme tid?
14. Hvordan ser typisk utviklingen av samarbeid og konkurranse ut underveis i et prosjekt?
15. Har prosjektet gått som forventet? Hvorfor/hvorfor ikke tror du det har blitt sånn?
16. Varierer håndteringen og ledelsen av samarbeid og konkurranse mellom prosjekter? Kom gjerne med konkrete eksempler.
17. Hvilke typiske suksessfaktorer ligger bak et vellykket samarbeid mellom konkurrenter?

Avslutningsvis

18. Er det noe du har lyst til å legge til, endre eller utdype?
19. Har du noen spørsmål avslutningsvis?

Vi informerer nok en gang om at all data vil anonymiseres og slettes etter at sensur foreligger. Videre informerer vi om at dersom informant skulle angre seg i ettertid har vedkommende all rett til å få data slettet. Vi vil også spørre om det er greit med mailkorrespondanse i etterkant av intervjuet dersom vi skulle ha spørsmål, og takke nok en gang for deltakelse.

Appendix 3: Consent form

Vil du delta i forskningsprosjektet «Ledelse av samkonkurranse i NCE Finance Innovation?»

Samtykkeerklæring – deltakelse i forskningsprosjekt

Dette er et spørsmål til deg om å delta i et forskningsprosjekt hvor formålet er å undersøke hvordan en nøytral tredjepart kan lede samkonkurranse. I dette skrivet gir vi deg informasjon om målene for prosjektet og hva deltakelse vil innebære for deg.

Formål
Dette studiet gjennomføres som en del av RaCE-programmet på NHH i samarbeid med NCE Finance Innovation. Formålet er å undersøke hvordan en nøytral tredjepart kan lede samkonkurranse. Masteroppgavens problemstilling er derfor: *"Which mechanisms are relevant in order for a neutral third party to manage coopetitive relationships?"*

Hvorfor får du spørsmål om å delta?
Du får spørsmål om å delta i studien fordi du enten er ansatt i NCE Finance Innovation eller i en av medlemsorganisasjonene til NCE Finance Innovation.

Hva innebærer det for deg å delta?
Deltakelse i dette forskningsprosjektet innebærer å delta på dybdeintervju med en maksimal varighet på 1 time. Dersom du godkjenner deltakelse vil vi ta opptak av intervjuet på lydfil og transkribere det i etterkant. Lydfilen slettes etter transkribering, og den transkriberte versjonen av intervjuet vil anonymiseres.

Det er frivillig å delta
Det er frivillig å delta i forskningsprosjektet. Hvis du velger å delta, kan du når som helst trekke samtykket tilbake uten å oppgi noen grunn. Alle dine personopplysninger og informasjon innhentet ved intervju vil da bli slettet. Det vil ikke ha noen negative konsekvenser for deg hvis du ikke vil delta eller senere velger å trekke deg.

Ditt personvern – hvordan vi oppbevarer og bruker dine opplysninger
Vi vil bare bruke opplysningene om deg til formålene vi har fortalt om i dette skrivet. Vi behandler opplysningene konfidensielt og i samsvar med personvernregelverket.

Alle personopplysninger vil bli behandlet konfidensielt, og informasjonen som lagres sammen med den transkriberte versjonen av intervjuet vil ikke inneholde navn – men en tilegnet kode. Navn og eventuelle kontaktopplysninger, samt dette skjemaet, vil oppbevares adskilt fra intervjudata. Det er kun prosjektgruppen på NHH som vil kunne få tilgang til de anonymiserte intervjuene.

Hva skjer med opplysningene dine når vi avslutter forskningsprosjektet?
Opplysningene anonymiseres når prosjektet avsluttes, hvilket etter planen er 20.12.2021.

Ved prosjektslutt vil personopplysninger og opptak av intervju bli slettet med hensyn til personvern.

Hva gir oss rett til å behandle personopplysninger om deg?
Vi behandler opplysninger om deg basert på ditt samtykke.

På oppdrag fra NHH har NSD – Norsk senter for forskningsdata AS vurdert at behandlingen av personopplysninger i dette prosjektet er i samsvar med personvernregelverket.

Dine rettigheter
Så lenge du kan identifiseres i datamaterialet, har du rett til:

- innsyn i hvilke opplysninger vi behandler om deg, og å få utlevert en kopi av opplysningene
- å få rettet opplysninger om deg som er feil eller misvisende
- å få slettet personopplysninger om deg
- å sende klage til Datatilsynet om behandlingen av dine personopplysninger

Hvis du har spørsmål til studien, eller ønsker å vite mer om eller benytte deg av dine rettigheter, ta kontakt med:

- Prosjektgruppe:
    - Vanessa Vance, vanessa.vance@student.nhh.no
    - Ida Jødahl, ida.jodahl@student.nhh.no
- Prosjektveileder ved NHH Christine B. Meyer*, christine.b.meyer@nhh.no*
- Vårt personvernombud: *personvernombud@nhh.no*

Hvis du har spørsmål knyttet til NSD sin vurdering av prosjektet, kan du ta kontakt med:

- NSD – Norsk senter for forskningsdata AS på epost (personverntjenester@nsd.no) eller på telefon: 55 58 21 17.

Med vennlig hilsen

Christine B. Meyer	*Ida Jødahl*	*Vanessa Vance*
(Prosjektveileder)	(Masterstudent)	(Masterstudent)

Samtykkeerklæring

Jeg har mottatt og forstått informasjon om prosjektet *Ledelse av samkonkurranse i NCE Finance Innovation*, og har fått anledning til å stille spørsmål. Jeg samtykker til:

- ☐ å delta i intervju
- ☐ at det blir tatt lydopptak av intervjuet

Dersom du ønsker å motta transkribert versjon av intervju, kryss av under:

- ☐ Jeg ønsker å motta transkribert versjon av intervju

Jeg samtykker til at mine opplysninger behandles frem til prosjektet er avsluttet, ca. 20.12.2021.

(Signert av prosjektdeltaker, dato)

The objective of this thesis is to examine the concept of coopetition by exploring how a neutral third party can manage coopetitive relationships. Because existing literature on how to manage coopetition is limited, we hope to contribute with further research and insight into this field.

The empirical context for our study is the Norwegian fintech cluster *"NCE Finance Innovation"*. Clusters are defined as geographical concentrations of firms in a particular industry interconnected through a wide range of relationships. Clusters can therefore serve as a platform for developing and fostering multilateral coopetitive relationships providing an interesting context for studying coopetition.

Our empirical findings are primarily based on nine semi-structured interviews with representatives from NCE Finance Innovation and member firms who have engaged in coopetitive relationships in the cluster either in the form of projects or working groups. Findings from our research reveal that the process of cooperating with competitors can be divided into three separate phases, where each phase involves different challenges and tensions that need to be managed in order to reap the potential benefits of coopetition. In an attempt to manage these challenges and tensions, we have identified seven important managerial mechanisms: *motivating coopetitive relationships, identifying potential risks and challenges, building trust and creating a cooperative culture, ensuring progress, handling inter-firm conflicts, ensuring compliance with regulations and ensuring cooperation to the end.*

In exercising these mechanisms, we find that NCE Finance Innovation has a crucial role. NCE Finance Innovation operates as a buffer in the dynamic interplay between competition and cooperation, thus balancing the relationship between the rival firms. As such, we find that having a neutral third party like NCE Finance Innovation managing the coopetitive relationships is essential to ensure successful coopetition.

SNF

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