Differences in coopetition due to firm size

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The concept of cooperation and competition, coopetition, has been a growing phenomenon in the past 20 years. Firstly, this paper explains the general concept of coopetition, its advantages and disadvantages. Subsequently, this paper explores coopetitive relationships between companies with similar and different sizes, namely (1) SME-SME, (2) large enterprise-large enterprise and (3) SME-large enterprise. A comparison of drivers, advantages and disadvantages of these three relationships is made in order to establish whether there are differences, based on a combination of a literature review and empirical research. Overall, this study finds that many drivers, advantages and disadvantages are similar for all three coopetitive relationships, however this study also found key differences. While SMEs find the liability of smallness to be an important driver for establishing coopetitive relationships, this driver is non-existent for large enterprises. Large enterprises will find that the disadvantage of additional bureaucracy will affect them more severely than SMEs, although this disadvantage can be reduced by finding a suitable partner with a culture that aligns with their own. While coopetition offers the ability to gain access to competencies of the other party, companies should carefully select the appropriate coopetitive relationship which fits their needs, since SMEs have limited competencies to share compared to large enterprises. The competitiveness between firms of different sizes engaged in coopetition was found to be significantly lower than the competitiveness of firms of similar sizes. Coopetitive relationships between firms of different sizes are often more complementary to each other, allowing less competition and more cooperation, while coopetition between firms of similar sizes operate on equal terms and are more competitive. Additionally, within the similarities there are some differences in the exact way different company sizes exploit the advantages of coopetition. This study can aid managers in coopetition decision making by providing a comparison of available relationship forms, allowing managers to choose the optimal coopetitive relationship for their needs and reap the maximum benefits of this relationship.

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1. Introduction: Investigating coopetition in different company sizes

Coopetition, a relationship between firms comprising both cooperation and competition, has been a growing phenomenon in the past 20 years (Maria Bengtsson & Kock, 2000, p. 414; Gnyawali & Park, 2011, p. 1). Competitive pressure, for example measured by the number of listed firms worldwide, has been growing since the 1980s and many companies sought ways to gain competitive advantage (Vives, 2008, p. 420; Worldbank, 2016). Interdependence between multinationals, caused by competitive pressure and collaborative desires, has never been so noteworthy and necessary as it is today, leading to an increasing amount of interconnections between global rivals (Luo, Slotegraaf, & Pan, 2006, p. 131). Companies recognised coopetition as a strategy form and source of competitive advantage, resulting in traditional competitors increasingly cooperating with each other to achieve competitive advantage (Rademakers & McKnight, 1998, p. 212).

Many studies have been performed exploring the concept of coopetition, however a relatively small amount of studies made a distinction in company size. Some researchers studied coopetition in SMEs, while others studied coopetition in large enterprises, however no attention was paid to differences in coopetition in different sizes of companies. Firm size affects many aspects, including finance, legal issues, innovativeness and strategy (Beck, Demirgüç-Kunt, & Maksimovic, 2005, p. 137; Cohen & Klepper, 1996, pp. 241-242; Darnall, Henriques, & Sadorsky, 2010, p. 1072). Therefore, it is likely to affect coopetition as well since it is considered a form of strategy. This study aims to determine drivers, advantages and disadvantages of coopetition of different company sizes, in order to then compare them to each other and establish differences. This paper aims to investigate the following coopetition relationships: SME-SME, large enterprises-large enterprise and finally SME-large enterprise. The main research question to be answered by this study is 'Do drivers, advantages and disadvantages of coopetition differ between different company sizes?'. Additionally, 'How do drivers, disadvantages and advantages differ between the three previously mentioned coopetitive relationships?'.

Firstly, a general overview of coopetition will be given by performing a literature review. Subsequently drivers, advantages and disadvantages of coopetition in all three relationship types will be described based on a literature review and an empirical study. Finally, a comparison will be made to establish differences and managerial implications will be given.

This paper aims to contribute to coopetition literature by exploring whether coopetition differs due to the size of a company. The study enriches our understanding of why a company of a certain size enters a coopetitive relationship with another company, what challenges companies can expect and how to deal with them effectively. This could assist companies that contemplate starting a coopetitive relationship in the decision making process. Additionally, other researchers could use this study as a starting point for further extensive research.

2. Literature Background: The concept coopetition and its advantages and disadvantages

2.1 Coopetition: Simultaneous competition and cooperation

The term 'coopetition' was originally coined by Ray Noorda around 1992 who was the founder and first CEO of Novell, an American software company (Fisher, 1992, p. 1; Williamson, 2006, p. 1). Coopetition gained further attention by the introduction to strategy research of this term by Brandenburger and Stuart (1996) and Brandenburger and Nalebuff (1996) (Dagnino & Padula, 2009, p. 18). Brandenburger and Nalebuff (1996) originally developed the term coopetition during their work on game theory and described it as "a revolutionary mindset that combines competition and cooperation" (Brandenburger & Nalebuff, 2011). Until then, the traditional approach to conducting business was based on an assumption of inter-firm competition which led to innumerable lost business opportunities. In game theory parlance these were called "win-lose" scenarios (Walley, 2007, p. 5). However, during the mid-1990s it became apparent that the traditional scenario, " win-lose", was not all encompassing since it was proven that cooperation between competing firms could produce a " win-win" scenario (Kotzab & Teller, 2003, p. 22).

Coopetition strategy assumes that competitors can be involved in both cooperative and competitive relationships with each other simultaneously and benefit from both. "The dyadic and paradoxical relationship that emerges when two firms cooperate in some activities, such as in a strategic alliance, and at the same time compete with each other in other activities is here called 'coopetition' " (Maria Bengtsson & Kock, 2000, p. 412). Since the start of the twenty-first century coopetition is regarded as a new option in the strategic portfolio of a firm (Song, 2003, p. 29) and as an important aspect of developing effective supply chains (WHEATLEY, 1998) [1] . Coopetitive relationships are significantly more complex than traditional inter-firm competition as they consist of two completely different logics of interaction. "Actors involved in coopetition are involved in a relationship that on the one hand consists of hostility due to the conflicting interests and on the other hand consists of friendliness due to common interests" (Maria Bengtsson & Kock, 2000, p. 412). Although coopetitive relationships bring along additional complexity, they are clearly advantageous otherwise firms would not utilise this strategy. According to an empirical study of coopetitive patterns by Bengtsson & Kock, the division of cooperation and competition is either related to the value chain or to the magnitude of business units. In the former, the division is based on functional aspects, or what activities the actors perform in the activity chain and the value they hereby create. In the latter, the cooperation and competition is divided between different business units or product areas, indicating that the competitors can compete in certain markets or product areas while they cooperate in others (Maria Bengtsson & Kock, 2000, p. 416). Concluding, the phenomenon of simultaneous cooperation and competition among firms is referred to as coopetition (Walley, 2007, p. 14).

Not all coopetitive relationships are the same, as they each have their own idiosyncrasies (Walley, 2007, p. 14). In order to further clarify the complex concept of coopetition, several authors developed classifications which led to three broadly accepted typologies. Firstly, Bengtsson and Kock (2000) mention that the relationship between cooperation and competition can have different shapes depending on the degree of cooperation and the degree of competition. They identified the following three different shapes of coopetitive relationships: if there exists more cooperation than competition within a relationship it is a cooperation-dominated relationship; if the degree of cooperation and competition is equally distributed it is an equal relationship;

[1] The original document could not be opened (Wheatley, 1998)

if the coopetitive relationship consists of more competition than cooperation it is a competition-dominated relationship. Figure 1 displays these three relationships and can be found at the top of this page. This typology will be discussed further in the discussion section.

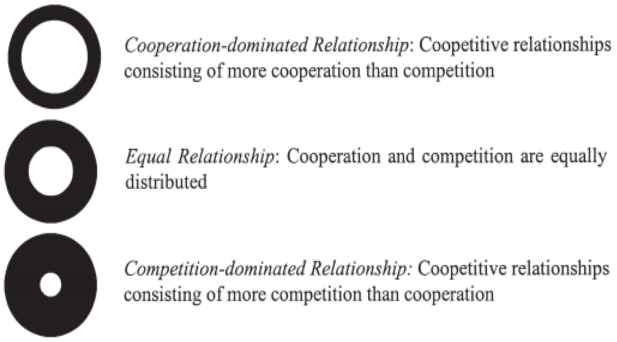

Figure 1. Three different coopetitive relationship shapes (Maria Bengtsson & Kock, 2000, p. 416)

Another typology of coopetitive relationships, also developed by Bengtsson and Kock (2003) is based on how the relationship is structured between two firms. Two firms that cooperate and compete with each other on equal terms are assumed to be involved in reciprocal coopetition. However, if there are other actors in a network (for instance a parent company) that determine the degree of cooperation and competition between two firms, the relationship is called multipolar coopetition (Walley, 2007, p. 15).

Finally, the third typology was proposed in a paper by Dowling et al. (1996) in which coopetition is under divided in three groups for inter-firm relationships. The “buyer-seller in direct competition” category comprises firms that are in direct competition in some aspect(s) of their operations. However, meanwhile these firms could also supply each other with a product or service, for example components and thus cooperate in the field of supply chain management. Another category, “buyer-seller in indirect competition” describes a situation where firms may supply each other with a product or service while firms are also involved in competition that does not relate directly to their products and services, for example lawsuits. The last category consists of firms that are involved in a joint venture, research consortium or a licensing agreement and this category is called “partners in competition” (Walley, 2007, p. 15).

Concluding, one can categorise coopetitive relationships based on (1) the degree of competition and cooperation, (2) the number of actors in a coopetitive relationship and (3) area of coopetition.

2.2 Advantages of coopetition: Reduction of costs and risks while pooling competencies and power

The growth in popularity of coopetition in the past two decades naturally implies that businesses view this strategy as a viable option and expect to gain significant benefits from a coopetitive relationship (Gnyawali & Park, 2011, p. 1). Several advantages will be described in this section, followed by disadvantages in the next section.

Firstly, Bengtsson and Kock (2000) propose that the advantage of coopetition is the combination of a pressure to develop within new areas provided by competition and access to resources provided by cooperation. For example, the benefits of cooperation are among others: (1) the cost of developing new products are divided among the cooperating companies, (2) the lead times are shorter, (3) each company can contribute with its core competence. Simultaneously firms are forced to further develop their products and carry out their activities in the most efficient way due to competition. Consequently, coopetition can be regarded as an effective way of handling both cooperation and competition between competitors (Maria Bengtsson & Kock, 2000, p. 424). This is in line with the paper of Hamel et al. (1989) which mentions that competitive collaboration helps a pair of rivals enhance their internal skills and technologies while guarding against transferring competitive advantages to ambitious partners (Hamel, Doz, & Prahalad, 1989, p. 134). Additionally, another study found that coopetition helps to increase technological diversity and combine complementary resources of rival firms in developing new technologies and products (Quintana-Garcia & Benavides-Velasco, 2004, p. 936).

Furthermore, competitive collaboration also reduces the costs, risks and uncertainties associated with innovation or product development during global expansion (Luo et al., 2006, p. 131). Especially for SMEs, this is a massive advantage of coopetition since small firms often cannot develop technologies on their own due to the high costs, uncertainties and risks involved in the process (Gnyawali & Park, 2009, p. 310). Risks and costs can be spread across multiple firms which can make the smaller firms able to compete with larger ones. However, spreading risks is also an advantage for larger firms when, for example, they are faced with radical innovations that require a large investment involving high risks. Consequently, coopetition is growing in battles of technical standards (Luo et al., 2006, p. 132). So ultimately coopetition may be a useful risk management tool when uncertainties of markets and technologies are high (Gnyawali & Park, 2009, p. 311). Coopetition can be particularly advantageous to firms that operate in knowledge-intensive, highly complex and dynamic environments (Carayannis & Alexander, 1999, p. 197).

Finally, coopetition gives the opportunity to firms to solidify global players’ collective power in dealing with outside stakeholders (for instance governments) and can strengthen the market position for members within the coopetition group. On the contrary to the previously mentioned advantage, this advantage is especially true when these players involved in coopetition dominate the global market. On the one hand the competition aspect of coopetition dilutes the pressure of anti-trust regulations, anti-monopoly demands and anti-multinational enterprise voices in developed and developing nations. On the other hand the cooperation aspect of coopetition fortifies collective bargaining power with independent institutions, especially home and host country authorities (Luo et al., 2006, p. 131).

2.3 Disadvantages of coopetition: internal disagreement, risk of opportunistic behaviour and groupthinking

Coopetition can also bring along disadvantages, for instance simultaneous cooperation and competition can give rise to internal disagreement and it can be difficult to separate the activities where competitors interact in cooperation and in competition (Maria Bengtsson & Kock, 2000, p. 415). This can cause confusion and create a hostile atmosphere within the company.

Furthermore, cooperation gives possibility for free riding, although trust and formal contracts can decrease this risk (Blomqvist, Hurmelinna, & Seppänen, 2005, p. 502). From the perspective of transaction cost economics coopetition is considered an extremely risky business because competitors have individual business incentives that might lead to opportunistic behavior (Bouncken & Kraus, 2013, p. 2068; Park & Russo, 1996, p. 876; Quintana-Garcia & Benavides-Velasco, 2004, p. 929). The perceived high risk could even become an obstacle to collaboration between rivals (Arranz & de Arroyabe, 2008, p. 93). In line with this, some authors have suggested that coopetition might not be an appropriate strategy for producing novel innovations (Nieto & Santamaría, 2007, p. 9).

In line with opportunistic behavior, the threat of diffusion of core competences to competitors forms a disadvantage for firms who wish to engage in a coopetitive relationship. Each party's intellectual property rights have to be adequately protected to prevent losing competitive advantage to competitors (Jankowska, 2013, p. 79).

Prolonged coopetition could turn into 'groupthinking', resulting in a limited variety of new ideas and irritational thinking (Makkonen, 2008, p. 20). Subsequently, eagerness towards consensus and compromises may cause rejection of distinct and radical ideas which does not lead to further development but to stagnation and rigidity (Välimäki, 2004) [2]. Moreover, close relationships can end up in collective blindness, which may affect decision making (Tura & Harmaakorpi, 2005, pp. 1120-1121).

Practical examples of the advantages and disadvantages of coopetition will be given in chapter 4, which goes further into depth discussing drivers, advantages and disadvantages for all three coopetitive relationships.

2.4 SME/large enterprise threshold: <250 staff and ≤50m turnover or ≤43m balance sheet total

SMEs have different needs than large enterprises, for example SMEs might need to cooperate to be able to compete with a large enterprise due to environmental forces, while a large enterprise may be able to sustain on its own (Morris, Koçak, & Özer, 2007, p. 38). On the other hand, a large enterprise could perhaps use the innovativeness and flexibility of a SME and could therefore also opt to cooperate with one or more SMEs to gain access to 'best-of-breed' or new products or services (Maria Bengtsson & Johansson, 2012, p. 403). In order to determine the effect of company size on coopetition strategy, companies need to be categorised first. Small and medium-sized enterprises (SMEs) are defined as companies with a staff headcount lower than 250 and a turnover lower than €50 million or balance sheet total lower than €43 million (figure 2), according to the European Commission (EuropeanCommision, 2016). This definition was chosen because most sources use this definition or a definition close to this one.

Company category	Staff headcount	Turnover	or	Balance sheet total
Medium-sized	<250	≤€50m		≤ €43m
Small	<50	≤€10m		≤€10m
Micro	<10	≤€2m		≤€2m

Figure 2. SME categorisation (EuropeanCommision, 2016)

SMEs are vital to the economy of a country, providing 66.76% of total permanent employment in the median country of a global sample by Ayyagari et al. (2011) (Ayyagari, Demirgüç-Kunt, & Maksimovic, 2011, p. 2). Furthermore, SMEs also generate the most new jobs, amounting to 86.01% of the median country. SMEs particularly have a large share of employment and job creation in developing countries, whereas highly developed countries often show slightly lower than median statistics (Ayyagari et al., 2011, pp. 2-4). Additionally, SMEs typically provide revolutionary breakthroughs (Baumol, 2004, p. 2) Ease of entry, information sharing and a competitive business environment enable SMEs so thrive and should thus be the focus for countries that wish to stimulate SME growth (Ayyagari, Beck, & Demirguc-Kunt, 2007, p. 429).

Any company that surpasses the boundaries shown in the figure above is considered a large enterprise. Large enterprises are also important to the economy since these companies are often highly specialised in one or more products and/or are able to mass manufacture products which gives consumers access to products at a suitable price. Large enterprises are able to pursue research and development goals that are impossible to pursue for SMEs due to their advantage in resources. Moreover, large enterprises provide continuous streams of incremental improvements that also add up to major contributions (Baumol, 2004, pp. 2-5).

3. Methodology: Literature review combined with empirical research

In order to investigate whether coopetition differs in companies with different sizes, this study started by clarifying the general concept of coopetition and its advantages and disadvantages in the literature background. The terms SME and large enterprise were also defined as how they are categorised by the European Commission.

After the clarification of the general concept of coopetition, this paper goes more into depth in order to find differences due to firm size. Drivers, advantages and disadvantages will be described for the following three coopetitive relationships: (1) SME-SME, (2) large enterprise-large enterprise and (3) SME-large enterprise. This is based on both literature and an empirical study in the form of interviews. A systematic literature review was performed which provided a few highly applicable case studies, complemented by other useful articles. A graphical overview of the systematic literature search can be found in figure 3 on the next page. Forward and backward searching of the references found in the reviewed papers provided many additional useful scientific papers.

Next to the literature review, three interviews were conducted to gain additional information. These interviews can be found in the appendix. In order to find suitable companies to interview I used my personal network for help and searched on the internet for collaborations between competitors. All three companies that were interviewed operate or operated in the construction industry. This field was chosen since these companies publicly showed that they collaborate with competitors and because of existing contacts in this industry. Since many literature articles describe coopetition in (high-tech) technology industries, these interviews can give additional insight in how coopetition functions in another industry. Following the SME categorisation of the European Commission, one company that was interviewed is a small SME (Interview 1) and the other two are large enterprises (Interview 2 and 3).

Subsequently, comparisons will be made in order to determine whether coopetition differs in the previously mentioned three coopetitive relationships. After the comparison there will be a

[2] The original document could not be opened (Välimäki, 2004)

discussion and managerial implications, followed by the limitations of this study and finally a conclusion of the whole paper.

Keywords	Initial Hits	Limit to 2006-2016	Hits only in relevant subject areas	Usable & assessed papers	Scopus Syntax
Coopetition	475	442	263	13	TITLE-ABS-KEY (coopetition) AND PUBYEAR > 2005 AND (LIMIT-TO (SUBJAREA , "BUSI"))
Coopetition SME	9	9	6	3	TITLE-ABS-KEY (coopetition sme) AND (LIMIT-TO (SUBJAREA , "BUSI"))
Coopetition large enterprise	6	5	5	3	TITLE-ABS-KEY (coopetition large enterprise) AND (LIMIT-TO (SUBJAREA , "BUSI"))
Coopetition advantage	39	39	25	2	TITLE-ABS-KEY (coopetition advantage) AND PUBYEAR > 2005 AND (LIMIT-TO (SUBJAREA , "BUSI"))
Coopetition disadvantage	3	3	3	1	TITLE-ABS-KEY (coopetition disadvantage) AND PUBYEAR > 2005 AND (LIMIT-TO (SUBJAREA , "BUSI"))

Figure 3. Overview of the systematic literature review

4. Drivers, advantages and disadvantages of coopetitive relationships

4.1 SME-SME coopetition relationship: strategy for mitigating risk and sharing resources

4.1.1 Drivers: liability of smallness, lack of resources and environmental forces

A superior product or resource advantage on its own is often not enough to ensure the sustainability of emerging ventures (Sherer, 2003). Smaller ventures are more vulnerable to environmental forces than larger ventures, especially given the limited cash reserves and debt capacity of such organisations, their frequent over-dependence on a limited product or service line and their tendency to rely on a niche customer base (Morris et al., 2007, p. 38). Operating a small or medium sized firms comes with ‘the liability of smallness’, which describes the problems in raising capital, fewer tax advantages and proportionately greater costs from regulation compared to larger firms. Additionally, especially at the early stages of the venture, entrepreneurs are more likely to commit a variety of errors and blunders due to the lack of experience, which is also referred to as ‘the liability of newness’ (Aldrich & Auster, 1986, pp. 173-183). These challenges SMEs have to deal with, in particular new SMEs, could be made easier to overcome by using a coopetition strategy, thus providing a strong incentive for SMEs to compete and cooperate simultaneously with each other.

Morris et al. (2007) conducted an empirical study about coopetition as a small business and sent a survey to a randomly generated sample of 1000 small firms in Ankara of which 647 firms responded adequately. The sample was focused around three key drivers that facilitate coopetition to successfully continue, namely (1) mutual benefit, (2) trust and (3) commitment. They found that, for small firms, partnerships with competitors are indeed based on mutual benefit, trust and commitment.

Regarding the mutual benefit dimension, small firms are particularly concerned with obtaining resources that are otherwise unavailable to them, including key forms of information that can serve to enhance their market performance (Morris et al., 2007, p. 51). Interestingly, they also found that the perception of mutual benefit appears to be greater when the prospective partner is smaller in size than the entrepreneur’s firm.

With respect to the trust dimension, the study showed that small firms tend to value honesty, reliability and loyalty. Openness in information sharing also strongly influences interfirm trust. Consequently, SMEs are more likely to partner with competitors that are perceived to perform well in those aspects.

For the commitment dimension the results showed that the main concern appears to be the perception that the other party is dedicated to not only strengthening their own position, but the relationship’s position in the marketplace. Each party has an obligation and responsibility to have goals and activities that contribute to the coopetitive relationship and not only to their own organisational advantage.

4.1.2 Advantages: Shared resources, increased capacity and scale economies

The purpose for SMEs to form coopetitive relationships is largely related to their size. Although technological advantage could allow SMEs to compete in major markets dominated by larger enterprises, limited resources and capabilities prevent SMEs from research and development activities that result in major innovations (Afuah, 2000, p. 399; Verhees & Meulenberg, 2004, pp. 138-139). By cooperating with fellow competitors in a market, SMEs can bundle their resources and capabilities which could allow them to compete with large enterprises in research and development activities. Thus, these coopetitive relationships can allow a SME to develop or use technologies it otherwise never could have developed on its own. In line with this, Bouncken and Kraus (2013) found that coopetition has a positive effect on the innovation of established products (Bouncken & Kraus, 2013, p. 2066) . Coopetition can also allow SMEs to work on large scale projects it would not be able to complete on its own due to the sheer size and lack of capacity (Interview1, 2016). Furthermore, coopetitive relationships potentially offers scale economies for SMEs, since small firms can benefit from joint volume opportunities (Gomes-Casseres, 1997, p. 42). Scale economies could reduce costs in the supply chain by bundling purchasing power and as a result firms have more bargaining power and may be able to buy their supplies for lower prices (Kossyva, Sarri, & Georgolpoulos, 2015, p. 100). Next to that, logistics could be made more efficient by transporting larger amounts of products, similarly to the scale economies that large enterprises have (Maria Bengtsson & Kock, 2000, p. 419). Moreover, scale economies can also allow SMEs to reduce capital expenditures and achieve a larger market presence (Kossyva et al., 2015, p. 419).

Coopetition enables SMEs to compete for projects it otherwise would not be able to due to their size, resulting in an additional market that can be served as well as an enlargement and improvement of its portfolio, which reduces dependencies. Additionally, the improved acquisition position could lead to more generated turnover while also allowing the company to keep part of its workforce available for other projects, which might not have been possible without coopetition due to the limited size of SMEs (Interview1, 2016). Furthermore, the cooperation aspect of coopetitive relationships allows SMEs to benefit from organisational learning in key areas where the firm is lacking development and resources as well as on a strategic level (Interview1, 2016; Morris et al., 2007, p. 38).

Being small also offers its advantages with respect to establishing a coopetitive relationship since smallness often comes with more flexibility. Compared to large enterprises, small firms often have; (1)limited fixed commitments, (2)operations that are less constrained by structure, controls and formal policies, (3) image and market positioning that are not well established in the minds of key publics and (4) external networks that are not well-defined or solidified (Morris et al., 2007, pp. 38-39). All these aspects make it easier for small firms to cooperate with competitors. Additionally, SMEs can innovate more quickly, are often less concerned with retained earnings, have employees with less vested interest in how things are done or resources located and managers and employees experience more role ambiguity (Bird, 1989)[3].

Concluding, coopetition is especially beneficial for SMEs since they are more likely to lack development and resources in certain areas, while large enterprises may not. Coopetition is not necessarily an action of necessity, but a coherent strategy for mitigating risk and leveraging resources. Coopetition can thus be considered a risk management strategy for small firms. For example, by relying on the intelligence, experience, human resources and networks of suppliers, distributors and customers of a competitor, the entrepreneur is mitigating the firm's fixed cost investment, lessening the learning costs, and exposing the firm to less trial and error. These advantages are especially useful in coopetitive relationships compared to regular cooperation, since close competitors are often very similar (Morris et al., 2007, p. 51).

4.1.3 Disadvantages: Limited and slower decision making, culture differences and limited competency sharing

So being small has its advantages within a coopetitive relationship, however there are also downsides. Small firms can develop organisational inertia, which can limit the strategic flexibility as a function of changes in the organisation size, prior experience of the entrepreneur with similar products and ownership and age of the venture (Woo, Willard, & Daellenbach, 1992, p. 444). However, Woo et al. (1992) also found that a dynamic environment would offset this tendency to continue on its current trajectory. When engaging in coopetition each party has to take the other parties into account, which can lead to reduced decision making freedom and slower decision making process that requires more time and resources. Not only can coopetition result in less decision making freedom, it also has a negative effect on revolutionary innovation, which proofs it can also be harmful to creativity (Bouncken & Kraus, 2013, p. 2067). Moreover, cooperating with competitors often requires more organisation and additional instructions due to culture differences (Interview1, 2016). Furthermore, another disadvantage could be present due to the smallness of the firm, namely small firms may have less competencies to bring to a coopetition-based relationship. Their core competencies are in the developmental stage and learning in these smaller organisations is not likely to be as well organised or systematic as in larger enterprises (Morris et al., 2007, p. 39).

4.1.4 Additional findings: Higher performance level and improved SME internationalisation due to coopetition

Concluding, Morris et al. (2007) found that firms in relationships that score highly in mutual benefit, trust and commitment appear to perform better. This is in line with a recent in depth case study done by Peng et al. (2012) which shows that cooperation with competitors does indeed lead to better performance in two ways. Firstly, coopetition allows the attainment of performance levels beyond what would otherwise have been possible and secondly coopetition allows for earlier achievement of higher performance levels (Baglieri, 2016, p. 196; Peng, Pike, Yang, & Roos, 2012, p. 532). Furthermore, a study by Kock, Nisuls and Söderqvist (2010) which conducted multiple in depth case studies in four Finnish SMEs, illustrates that coopetition strategies can be beneficial for internationalising SMEs in Finland. They found that international opportunities can be found in strong as well as weak cooperation-dominated relations and even in equal

[3] The original document could not be opened (Bird, 1989)

relations between competitors. (M Bengtsson, Wilson, Kock, Nisuls, & Söderqvist, 2010, p. 1)[4].

4.2 Large enterprise-large enterprise coopetition relationship: establishing standards, access to unique capabilities and risk sharing

4.2.1 Drivers: Rapid change in technology, cost and complexity of research

Similarly to SMEs, large enterprises can also pursue a coopetitive relationship in order to gain advantage, however their drivers may differ. Unlike SMEs, large enterprises may have access to a sizeable amount of resources, often have a wide range of competencies and knowledge available, are able to compete or even dominate a market on its own and they have a higher survival chance during difficult times. Nonetheless, they also have to deal with their own challenges which could be aided by a coopetition strategy. For example, key forces leading to coopetition in the technology sector are rapid change in the technology, the cost of developing new technologies and the complicated nature of the technology (Gnyawali & Park, 2011, p. 654).

4.2.2 Advantages: shared research costs and risks, improved acquisition power and reduced capacity demand

Utilising a coopetition strategy could allow a large technological enterprise to establish technological standards and thus dominate the market. For instance, Sony and Samsung created a joint venture and with their combined power they managed to win the battle for the television screen standard against Panasonic and LG Electronics (Gnyawali & Park, 2011, p. 654). Another reason for establishing a coopetitive relationship between two large enterprises is to gain access to unique characteristics and capabilities of the coopetitive partner. Concerning the Samsung and Sony case, Sony sought to secure a stable supply of high quality LCD panels to catch-up on the flat-panel television segment, while Samsung was able to achieve greater economies of scale and a higher quality due to the technological standards of Sony. Sony benefited from the relationship because of Samsung's strong capability in the LCD technology, the drive for pushing the LCD technology and the overall resource base. Meanwhile, Samsung benefited from Sony by gaining access to their television making expertise, brand name and large and continued demand for LCD panels (Dvorak & Ramstad, 2006, p. 1). Furthermore, capital investments for certain projects, especially in the technology sector, are often massive and coopetition allows firms to share the costs and risks associated with developing new technologies. The combined resources of two large enterprises allow for more cost efficient facilities and relatively quick introduction of the product to the market (Gnyawali & Park, 2011, p. 654; Interview2, 2016; Interview3, 2016).

In another large enterprise case study about Amazon by Ritala et al. (2014), the author mentions that another driver for coopetition is the recognition that the processes, infrastructure and brand of a firm can be more valuable to the customers when they are utilised as broadly as possible, even including through the use of competitors. Amazon views coopetition as a way to create even more customer value than otherwise possible, using traditional forms of competition. For example, even though Amazon and Apple were major rivals, they decided to begin a coopetitive relationship because together they could create more customer value and reach an even larger amount of consumers (Ritala, Golnam, & Wegmann, 2014, p. 241). Similarly to Sony and Samsung, these two giants recognised there was mutual benefit in forming a coopetitive relationship and managed to form one despite their rivalry.

Furthermore, another reason to engage in coopetition is the sheer size of certain projects, which can be too demanding, even for a large enterprise. Naturally, this advantage is even more important for smaller companies but large enterprises also encounter projects with such a grand scale that they cannot responsibly carry out the project on their own. Coopetition allows companies to reduce the required capacity which allows other projects to continue and decrease dependencies (Interview3, 2016). Finally, combined networks and skills can improve project acquisition power (Interview2, 2016).

4.2.3 Disadvantages: Risk of losing knowledge, hostility and slowed down decision making

Coopetition between two large enterprises or even rivals is a very challenging relationship (Gnyawali, He, & Madhavan, 2008)[5]. Coopetition between two rivals involves high levels of tension and a risk of losing knowledge to a competitor-partner which might subsequently turn a weak competitor-partner into a strong competitor (Gnyawali & Park, 2011, p. 658; Interview3, 2016). Additionally, large enterprises can have open hostility to each other with an even larger scope than SMEs, which could complicate a coopetitive relationship. For example, Samsung and Apple had fought numerous legal battles before they decided to cooperate with each other (King, 2015, p. 1). Next to that, the cooperation aspect of coopetition between large enterprises often leads to more bureaucracy which slows down the decision making process. Finally, differences in culture can cause various difficulties in aspects such as communication, quality, work ethic. Culture differences can lead to disagreements or even clashes at the workplace, which complicates the completion of collective projects (Interview2, 2016; Interview3, 2016).

4.2.4 Additional findings: Enhanced innovative performance of a whole industry due to coopetition

Finally, coopetition between large enterprises does not only have an effect on the enterprises involved, but on the industry as a whole. Coopetition between large enterprises can subsequently lead to coopetition between other major players in the market in order to stay competitive. Consequently, this could result in a market with group-to-group competition (Gnyawali & Park, 2011, p. 658). Vigorous competition to develop new processes and products between these groups of large enterprises can enhance the innovative performance of the industry as a whole, since all firms in the industry will strive for competitive

[4] The original document could not be opened (M Bengtsson, Wilson, Kock, Nisuls, & Söderqvist, 2010)

[5] The original document could not be opened (Gnyawali, He, & Madhavan, 2008)

advantage against each other, leading to greater innovative benefits to the industry as a whole (Schumpeter, 1942)[6].

4.3 SME-Large enterprise relationship; 'best-of-breed' products in exchange for market access

4.3.1 Drivers: access to value chains in exchange for highly specialised products

Companies do not only coopete with other companies of their size but also with significantly larger or smaller companies. SME's are able to create niche markets by commercialising pioneering technologies (Jacobides & Winter, 2007, p. 11), however these firms will face challenges such as a lack of key resources, limited market presence and dependence upon narrow product or service lines on a niche customer base (Baum, Calabrese, & Silverman, 2000, p. 268). Since rapidly developing industries are dominated by large enterprises, SMEs in this industry need to develop coopetitive relationships with these large competitors in order to enter into integrated horizontal value chains (Maria Bengtsson & Johansson, 2012, p. 402). SMEs have increased agility and responsiveness compared to larger firms and the search for 'best-of-breed' products enables small, specialised firms to market their products and makes them attractive for larger enterprises to engage in coopetition (Maria Bengtsson & Johansson, 2012, p. 403; McAdam & Reid, 2001, p. 238). The fact that customers desire multi-technological products (technological convergence) and 'best of breed' products (market convergence) has led to increased complexity between firms and more incentives to engage in a coopetitive relationship (Maria Bengtsson & Johansson, 2012, pp. 406-407).

4.3.2 Advantages: Increased legitimacy and credibility, enlarged competencies and improved acquisition power

In their case study, Bengtsson and Johansson (2012) found that all three SMEs engaged in coopetition with a large competitor to gain legitimacy and credibility (Maria Bengtsson & Johansson, 2012, p. 415). Simultaneously, since global customers search for the best functionality and multiple needs integrated in one product, large enterprises can enlarge their set of competencies and resources by engaging in a coopetitive relationship with one or more SMEs in order to satisfy customer wishes (Davies, Brady, & Hobday, 2007, p. 6). Furthermore, time pressure in the form of shorter product life cycles and shorter time to market, especially in high tech industries, is another reason for SMEs and large enterprises to establish a coopetitive relationship. Firms need to develop new services and products continuously as well as identify potential customer needs since markets for new products are maturing rapidly. Therefore, it is vital to cooperate with competitors which possess specialised knowledge in certain technological areas or markets. This can lead to short term coopetitive relationships which are organised around specific projects but it can also build a foundation for further coopetition in the future (Maria Bengtsson & Johansson, 2012, p. 413). Similarly to the previously discussed coopetitive relationships, SMEs and large enterprises also engage in coopetition to gain access to each other's expertise, resources and network. Together they can reduce capacity problems and risks, while also improving their acquisition power. For example, SMEs might have acquisition advantages in certain local geographic areas, while large enterprises can offer these advantages on a broader scale. This can lead to additional projects and turnover for both parties involved (Interview1, 2016; Interview2, 2016; Interview3, 2016).

4.3.3 Disadvantages: Power asymmetry, risk of losing independence and slowed down decision making

Unlike the previously discussed coopetitive relationships, a relationship between an SME and large enterprise is more difficult to balance due to asymmetry in terms of relative power (Holmlund & Kock, 1996, pp. 26-41)[7]. Czakon (2010) found that power asymmetry is positive for the establishment of a relationship, but not for its development (Czakon, 2010, pp. 64-66). The difference in power gives the stronger partner the opportunity to use their power in order to obtain superior economic returns, therefore SMEs need to be able to manage challenges and risks related to power asymmetry (Maria Bengtsson & Johansson, 2012, p. 4; Gulati & Sytch, 2007, p. 5).

The tendency of large firms to acquire or control new technologies results in a challenge for SMEs who aim to sustain their competitive advantage and act independently. Both role flexibility and agility are necessary to balance the asymmetric coopetitive relationship between SMEs and large enterprises, so that SMEs can avoid being locked into the large enterprise's value chain and be able to capture the value that was initially created. Role flexibility can be achieved by collaborating with more than one firm to offer a standalone product or to develop new market niches together to strengthen their position. Agility requires entrepreneurial activeness, alertness and rapid responsiveness in order to create and sustain opportunities. Therefore Bengtsson and Johansson argue that SMEs need to establish portfolios of relationships in order to respond quickly to change and upcoming opportunities (Maria Bengtsson & Johansson, 2012, pp. 420-421). Additionally, another challenge is the sheer difference in organisational size. In the case study of Bengtsson and Johansson, the bureaucratic nature of large enterprises caused tensions in the coopetitive relationships with SMEs. According to these firms, inertia is inherent in the bureaucratic structure of large organisations and led to delayed deals with potential damage for the SME, causing SMEs to build coopetitive relationships with other firms in order to realise their visions and ambitions (Maria Bengtsson & Johansson, 2012, p. 418). However, not only SMEs experience the disadvantage of delayed decision making, large enterprises also have to take more parties into account which delays their decision making process as well. Next to that, culture differences can cause disagreement and difficulties between the involved parties. Finally, a coopetitor is still partly a competitor which could discover valuable knowledge of the other party and learn from the whole coopetition experience. This could strengthen a firm's competitor and thus harm the market position of that firm (Interview1, 2016; Interview3, 2016).

5. Comparison: drivers, advantages and disadvantages of coopetition in different company sizes

A graphical overview of this comparison can be found in figure 4 in the appendix.

[6] The original document could not be opened (Schumpeter, 1942)

[7] The original document could not be opened (Holmlund and Kock, 1996)

5.1 Drivers: Knowledge and capability sharing, research cost and risk sharing, facilitating drivers

Coopetitive relationships between (1) SMEs, (2) large enterprises and (3) SMEs and large enterprises have been described in the previous section so in this section a comparison will be made between these three in order to determine whether there is a difference. For the following drivers no major differences were found; (1) knowledge and capability sharing, (2) research cost and risk sharing and (3) mutual benefit, trust and commitment. Although the ability to gain access to the other parties' capabilities and knowledge is a vital driver for all coopetitive relationships, the specific nature of this exchange somewhat differs. SMEs share capabilities in order to gain access to capabilities they cannot afford to develop themselves, whereas large enterprises coopete to gain access to complex and advanced expertise that one party possesses and the other not (Dvorak & Ramstad, 2006, p. 1; Morris et al., 2007, p. 38). In coopetitive relationships between SMEs and large enterprises, SMEs value the fact that they gain access to a wide range of knowledge, while large enterprises value the fact that they gain access to highly specific and niche knowledge (Maria Bengtsson & Johansson, 2012, pp. 406-407). Research cost and risk sharing is beneficial for all three relationships, however one could argue that it is slightly more important to SMEs since they could gain access to conducting research that they could never have afforded on their own, whereas for large enterprises it is a way improving efficiency and decreasing risk (Morris et al., 2007, p. 38). Mutual benefit, trust and commitment are facilitating drivers that help keep all three coopetitive relationships sustainable for all involved parties (Morris et al., 2007, p. 36).

1.Proposition: *(1) Knowledge and capability sharing, (2) research cost and risk sharing and (3) mutual benefit, trust and commitment are all important drivers for all three coopetitive relationships.*

Next to similarities in drivers, a difference in two drivers that are strongly connected to each other was also found. The liability of smallness and pressure from environmental forces are important drivers for SMEs to form coopetitive relationships, while non-existent and less important for large enterprises. SMEs have to deal with problems in raising capital, fewer tax advantages and proportionately greater costs from regulation compared to larger firms. Additionally, smaller ventures are more vulnerable to environmental forces such as competition and government policies (Morris et al., 2007, p. 38). These drivers apply to SMEs in SME-SME relationships as well as SMEs in SME-large enterprise relationships.

2.Proposition: *The liability of smallness and pressure from environmental forces form important drivers for SMEs in SME-SME relationships and SMEs in SME-large enterprise relationships.*

5.2 Advantages: Improved market position and customer access, scale economies

Coopetition also offers advantages that are quite similar for all three relationships, namely improved market position and customer access and secondly scale economies (Interview1, 2016; Interview2, 2016; Interview3, 2016; Ritala et al., 2014, p. 241). However, there are some small differences inside these drivers which need to be mentioned. Coopeting SMEs can access customers it would not have been able to serve on its own due to a lack of capacity, while large enterprises can coopete to make their product or service even more broadly accepted, possibly making it a technology standard (Gnyawali & Park, 2011, p. 654). SMEs that coopete with large enterprises can gain access to the value chain of a large enterprise and improve their publicity among potential customers, whereas large enterprises can gain access to specific geographical areas of niche markets (Maria Bengtsson & Johansson, 2012, p. 402; Interview3, 2016). Concerning scale economies, the ability to bundle purchasing power, production, logistics and other supply chain activities offers significant benefits to SMEs as well as large enterprises (Interview3, 2016; Kossyva et al., 2015, p. 100). This benefit applies to both sizes, although scale economies could allow SMEs to achieve a larger market presence which would previously not have been attainable so one could argue that it is slightly more important to SMEs than large enterprises.

3.Proposition: *All three coopetitive relationships can gain the following advantages from coopetition: improved market position, improved customer access and scale economies.*

A difference was found concerning another similar advantage, namely increased capacity. Increased capacity proved to be an important advantage for both SME-SME and large-large enterprise relationships, however, while still helpful, less important for SME-large enterprise relationships. Gaining access to value chains and additional projects is a far more important advantage for SMEs in a SME-large enterprise relationship, while gaining access to highly specialised products or areas is far more important for large enterprises in SME-large enterprise relationships (Maria Bengtsson & Johansson, 2012, p. 402; Interview1, 2016; Interview2, 2016; Interview3, 2016). This can be explained by the fact that SME-large enterprise relationships are often complementary, while SME-SME and large-large enterprise relationships operate on equal terms. When a firm seeks increased capacity, it often cooperates with firms of similar size. Since SMEs carry out projects of a smaller scope, cooperating with another SME is more suitable than cooperating with a large enterprise. On the other hand, since large enterprises carry out projects with larger scopes, similar large enterprises would be more suitable to cooperate with as SMEs would hardly have a big impact on capacity size. Therefore, the advantage of increasing capacity is more important for SME-SME and large-large enterprise than SME-large enterprise (Interview1, 2016; Interview3, 2016).

4.Proposition: *Increased capacity is a major advantage for both SME-SME and large-large enterprise relationships, while it is relatively less important for SME-large enterprise relationships, however it still offers an advantage.*

5.3 Disadvantages: slowed down decision making, culture differences and unwanted knowledge sharing

A difference in culture can cause disadvantages for all three coopetitive relationships. Problems can arise in the workplace leading to disagreements or even clashes that complicate a project. For example, differences in work ethic, quality, authority and other aspects can cause disagreement (Interview1, 2016; Interview2, 2016; Interview3, 2016). All companies that were interviewed stressed that the culture of a company should fit when contemplating coopetition. Therefore, it is advisable for all companies seeking a coopetitive relationship to ensure a culture fit before engaging in coopetition.

5.Proposition: *All coopetitive relationships need to be careful and check whether the culture of a (potential) partner conflicts with their own.*

Furthermore, all members involved in a coopetitive relationship run the risk of strengthening their competitors, especially when sharing knowledge, but even just the collaborating experience itself can be useful for competitors (Gnyawali & Park, 2011, p. 658; Interview1, 2016; Interview3, 2016). This is a threat to all three coopetitive relationships, however especially SMEs coopeting with a large enterprise have to be careful of another threat: losing their independence. Large enterprises could utilise the knowledge they have gained in order to produce a product or service themselves to make the SME obsolete (Maria Bengtsson & Johansson, 2012, pp. 420-421). Moreover, large enterprises could also weaken the market strength of an SME and acquire it when the SME has no other option left. Concluding, losing the knowledge of a critical product or service to a competitor could seriously threaten the survivability for an SME if they heavily depend on one or a small array of products and services. On the other hand, while it is also detrimental for large enterprises to lose knowledge, these enterprises often have a larger array of products and services, lessening the impact on their survivability.

6.Proposition: *All three coopetitive relationships need to be careful of unwanted valuable knowledge sharing, most notably SMEs that coopete with large enterprises.*

Coopeting with another party involves additional communication and organisation since all members need to be taken into account and ultimately they need to come to an agreement. This requires additional resources and time (Maria Bengtsson & Johansson, 2012; Interview1, 2016; Interview2, 2016; Interview3, 2016). All three coopetitive relationships experience this disadvantage, resulting in slowed down decision making, delayed project and other difficulties. However, since the scope of operations of large enterprises is naturally significantly larger than SMEs, large enterprises encounter even more bureaucracy and an even slower decision making process. This disadvantage can be countered by ensuring an alignment of culture, determining clear guidelines and previous cooperation experience with the other party (Interview2, 2016; Interview3, 2016).

7.Proposition: *Coopetition can lead to additional bureaucracy, resulting in slowed down decision making for all parties involved in coopetitive relationships, however especially for large enterprises that coopete with each other.*

Finally, while competency sharing is a key advantage of coopetition, SMEs possess a relatively limited set of competencies which allows for a rather limited amount of competency sharing, compared to large enterprises (Morris et al., 2007, p. 39). Therefore, a firm should determine their needs and choose a coopetitive relationship accordingly. SMEs seeking a wide array of competencies should engage in coopetition with a large enterprise, while SMEs that seek to slightly increase their competencies should coopete with other SMEs. Large enterprises seeking a general improvement or enlargement of their competencies should engage in coopetition with another large enterprise, while large enterprises that seek highly specific or niche knowledge of a product or service should engage in coopetition with appropriate SMEs (Interview1, 2016; Interview2, 2016; Interview3, 2016).

8.Proposition: *SMEs have rather limited competencies to share compared to large enterprises, therefore firms should determine their needs and choose an appropriate coopetitive relationship accordingly.*

6. Discussion and managerial implications: Many similarities accompanied by some key differences

The comparison shows that there are many similarities in drivers, advantages and disadvantages between the three coopetitive relationships, however there are a few differences that companies should take into account. Not only are there a few differences, the exact nature of common drivers, advantages and disadvantages does sometimes differ between the three, which is another aspect companies should take into account when contemplating or already using coopetition.

Next to the drivers, advantages and disadvantages, the degree of competitiveness of all three coopetitive relationships was also investigated. Results of the interviews show that SME-SME relationships can be completely different in competitiveness, namely cooperation would be significantly more dominant during collective projects but competition would be the dominant aspect the rest of the time. Coopetition between large enterprises proved to be quite similar to this. However, most importantly this research found a significant difference in competitiveness in coopetition between different sizes. Coopetition in SME-large enterprise relationships consists mostly of cooperation, also referred to as a cooperation-dominated relationship (Maria Bengtsson & Kock, 2000, p. 416). This can be explained by the fact that companies of different sizes often do not operate in exactly the same business area. SME-large enterprise relationships are often complementary to each other, while SME-SME and large-large enterprise relationships are often partners on equal terms and similar to each other (Interview3, 2016). This discovery is a new contribution to existing literature and could be a starting point for further research.

Comparing the literature to the interviews shows that there are many similarities, however there was a notable difference in the practicality of the drivers, advantages and disadvantages mentioned by the literature compared to the interviews. Concerning the drivers, literature mentioned that mutual benefit, trust and commitment was needed to keep a coopetitive relationship sustainable, while the interviews stressed the need of a culture fit to keep operations running smoothly (Interview1, 2016; Interview2, 2016; Interview3, 2016; Morris et al., 2007, p. 36). Furthermore, literature described environmental forces as a driver for SMEs to form coopetitive relationships, while interviews provided more practical drivers such as gaining more turnover, acquiring more projects and exploiting additional markets (Interview1, 2016; Morris et al., 2007, p. 38). Additionally, as an important advantage the interviews all mentioned increased capacity, while this was not stressed as often by the literature. All companies that were interviewed found it really important to gain either additional capacity to be able to handle the workload or gain additional capacity to be able to save some capacity for calamities and reduce dependencies (Interview1, 2016; Interview2, 2016; Interview3, 2016). Regarding the disadvantages, slower decision making, culture differences and unwanted knowledge sharing were all mentioned by both the literature and interviews, however the fact that SMEs have limited competencies to share was not found in the interviews. Instead, interviews again provided more practical disadvantages such as additional costs from additional organization and communication (Interview1, 2016). This could be explained by the fact that the interviewees were all business people who focus more on practical opportunities, while researchers are more interested in theoretical aspects as well. Moreover, the interviews were all conducted in the construction industry, whereas some literature studied high-tech sectors with more innovation which pay more attention to theoretical and more complex factors.

With this study managers can gain knowledge about coopetition with companies of different or similar sizes. Managers can get information about drivers, advantages and disadvantages of SME-SME, large enterprise-large enterprise and SME-large enterprise relationships in order to aid them in their decision. Most importantly, this study allows managers to compare the three available coopetitive relationships and decide which relationship would be most beneficial to them. For example, a large company that seeks knowledge of a niche product or service should approach SME companies. To improve the attractiveness of a coopetitive relationship for SMEs, the large enterprise should limit the disadvantages such as allowing the SME to protect its knowledge, keep its independence and reduce bureaucracy involved in the coopetitive relationship (Interview1, 2016). On the other end of the spectrum, SMEs seeking a slight improvement of their knowledge or similar experiences to learn from should approach other SMEs for coopetition. To increase attractiveness they should provide a clear organisation to avoid additional unnecessary costs but still allow other SMEs to retain their own freedom and responsibilities (Interview1, 2016). On the other hand, if an SME seeks to gain access to a large array of knowledge or entrance in a value chain, the SME should approach large enterprises. To increase attractiveness for large enterprises, the SME should find firms that fit with its own culture and also allow large enterprises to protect knowledge they do not wish to share (Interview2, 2016; Interview3, 2016).

Furthermore, this study provides challenges of coopetition which managers can prepare to deal with in advance. Additionally, managers of companies that already partake in coopetition can use this study to see whether they fully exploit their relationship and where improvements can be made. Finally, managers can get a general overview of coopetitive relationships which can make them help understand decisions of fellow competitors.

7. Limitations and future recommendations: SME categorisation differences, limited sample size, limited industry representation

The categorisation of SMEs and large enterprises differs around the world. For this study it was important to have a clear categorisation and since the interviews and literature case studies were conducted in line with the categorisation established by the European Commission, this categorisation was chosen. Further research in other areas of the world should be done in line with the categorisation of that area in order to see whether these results would be similar to this study.

A limited number of interviews was conducted to aid this research, therefore it is likely that this study does not contain all information one could desire. Additional studies should be performed to draw more conclusions and validate the results of this research.

The companies that were interviewed all operate in the Dutch construction industry. While this makes it easier to compare these companies to each other, one cannot be sure that these results are representative for all industries and geographical areas. The literature provides studies from other industries as well, however additional research should be done in various industries in order to strengthen or weaken the results of this study.

8. Conclusion: Aiding managers in their decision regarding coopetitive relationships

This study addresses coopetition in the following three relationships: (1) SME-SME, (2) large enterprise-large enterprise and (3) SME-large enterprise. Drivers, advantages and disadvantages of all three relationships were found and compared to each other. The combination of a literature and empirical study shows that there are many similarities between these three relationships, but also some substantial differences one should pay attention to. Additionally, while many similarities exist, the exact nature of general drivers, advantages and disadvantages does sometimes differ between the three relationships. Literature and interviews also provided many similar answers, however the interviews focused more on the practical effects of coopetition. The comparison made by this study can help guide managers in their decision making regarding coopetitive relationships and could be used as a starting point for further research in the field of coopetition.

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10. Appendix

Drivers		**SME-SME**	**Large-Large**	**SME-Large**		**Proposition**
Knowledge and capability sharing		High B	High B	High B		(1) Knowledge and capability sharing, (2) research cost and risk sharing and (3) mutual benefit, trust and commitment are all important drivers for all three coopetitive relationships.
Research cost and risk sharing		Very high B	High B	High B		
Mutual benefit, trust and commitment		High L	High L	High L		
Liability of smallness		Very high B	Very low L	Moderate L		The liability of smallness and pressure from environmental forces form important drivers for SMEs in SME-SME relationships and SMEs in SME-large enterprise relationships.
Environmental Forces		High L	Low L	Low L		
Advantages						
Improved market position and access to potential customers		High B	High B	Very high B		All three coopetitive relationships can gain the following advantages from coopetition: improved market position, improved customer access and scale economies.
Scale economies		Very high B	High B	High B		
Increased capacity		High I	High I	Moderate I		Increased capacity is a major advantage for both SME-SME and large-large enterprise relationships, while it is relatively less important for SME-large enterprise relationships, however it still offers an advantage.
Disadvantages						
Culture differences		High B	High B	High B		All coopetitive relationships need to be careful and check whether the culture of a potential partner conflicts with their own.
Unwanted knowledge sharing		High B	High B	Very high B		All three coopetitive relationships need to be careful of unwanted valuable knowledge sharing, most notably SMEs that coopete with large enterprises.
Slower decision making process		High B	Very high B	High B		Coopetition can lead to additional bureaucracy, resulting in slowed down decision making for all parties involved in coopetitive relationships, however

						especially for large enterprises that coopete with each other.
Limited competency sharing		High L	Low L	Low L		SMEs have rather limited competencies to share compared to large enterprises, therefore firms should determine their needs and choose an appropriate coopetitive relationship accordingly.

Figure 4. Comparison table of drivers, advantages and disadvantages In this table an overview is given with drivers, advantages and disadvantages on the left side and all three coopetitive relationships at the top. The effect of a driver, advantage or disadvantage on a coopetitive relationship is given in categories ranging from very low to very high. This effect was found in either literature, interviews or both which is categorised in the following way: L=Literature, I=Interviews and B=Both.