The benefits and drawbacks of coopetition on the performance of SMEs

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ABSTRACT
Coopetition is defined as the simultaneously pursuit of cooperation and competition, and in fast-changing business environment coopetitive interactions in supply management are being found common. Therefore coopetitive interactions draw the attention of many researchers. However, there is still not a research yet that addresses the impact of coopetitive interactions especially for the innovative small and medium enterprises (SMEs).
Thus this paper is dedicated to investigate the impact of coopetitive interactions on the performance of the innovative SMEs. And by the method of literature review, which means reviewing other relevant academic papers, a framework is presented here, in order to show the benefits as well as drawbacks of the coopetitive interactions on SMEs based on the previous studies.
Generally, in this paper the benefits and drawbacks found are concerned about the new product development, the present value, competitive advantage and customer perception and relationship. Moreover, in literature review and discussion part, more detailed aspects of those categorizations of benefits and drawbacks will be studied. Finally, the relationships between tensions and the negative impact of coopetitive interactions will be explained, and thus few strategies regarding how to mitigate those negative impacts will be discussed.

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1. INTRODUCTION

1.1 Research motivation and problem statement

As the business environment is becoming more dynamic and highly innovative, this forces enterprises to be more involved in multi-firm alliances (Lavie, Lechner, & Singh, 2007). At the same time the enterprises try to develop various portfolios of relationships in order to become successful and profitable (Bengtsson & Johansson, 2012; Hoffmann, 2007). Managing those various relationships are strategic especially in a dynamic business environment, as the relationships and alliances between enterprises as well as their suppliers can drive innovation, capability evolution, and resource recombination, which in the end help a firm develop new competitive advantages (Chen, Lee, & Lay, 2009).

Among those different alliances, coopetition has been found most outstanding and strategically which the enterprises across different industries are involved in (Powell, Koput, & Smith-Doerr, 1996). And managing coopetitive interactions well is strategic, because it shows the simultaneity of value creation and appropriation, competition and collaboration between the enterprises and their suppliers, this inherent contradiction features, also a set of coopetition different among other organizational alliances and networks (Paavo Ritala & Tidström, 2014). For example: refers to Dahl (2014), that the need for competitors to be engaged in coopetitive interactions is noticed among large enterprises, as well as the small enterprises. It is therefore attracts the attention of the researchers and the entrepreneurs to the field of studying coopetition interactions, according to Bengtsson and Kock (2014) there are already many researches and studies been done regarding either competitive or coopetitive interactions are from knowledge-intensive industry, i.e. highly-innovative industries (Bouncken & Kraus, 2013). Also, according to Bayarçelika, Taşelb, and Apakc (2014) many researches including theirs only focus on the drivers and the barriers of the coopetition interactions for small and medium sized highly-innovative enterprises, thus they suggests there is still lack of a thorough review over the impact of coopetition on the innovative small and medium sized enterprises (SMEs). Also, because innovative SMEs do not typically have significant internal resources for innovation (or its market exploitation), therefore external guidance and assistance is often crucial to aid their competitive edge (Propris, 2002; Rogers, 2004).

As a result it is interesting to examine the impact of coopetition on the innovative SMEs to be aware of how will coopetition influence on innovative SMEs’ performance because the conclusion could further guide innovative SMEs to survive and profit in the dynamic business environment.

The last point is that among the existing literatures there is still not a study that combine all the impact of coopetition on the innovative SMEs together in terms of every aspects, for example: the impact on R & D investments, on customer relationships and etc., and to conclude an overall picture of the effects of coopetition in various innovative SMEs that are involved (Bouncken & Kraus, 2013).

Therefore, from above it is clear to see that the coopetition interactions between the innovative SMEs and its influence on those enterprises, i.e. the impact of coopetitive interactions on those involving innovative SMEs is a topic that worth reviewing systematically.

Therefore, in this paper the benefits and drawbacks of coopetitive interactions on the innovative SMEs will be concluded and discussed subsequently. And in the discussion part, the relationship of tensions and the drawbacks of coopetitive interactions will also be discussed, and finally the strategies, which expect to mitigate the negative impacts of coopetition, will be presented.

After recognizing the research gap, the research aims and research question will be formulated clearly in the next section.

1.2 Research aims and research question

First of all the definition of coopetition needs to be clearly stated for the later studies. Generally there are two definitions which are used in this paper: Afuah (2004) suggests that coopetition can be seen as a value-net which comprise an enterprise’s suppliers, customers, competitors and complements. This definition concerns about the participants involves in the coopetition interactions. The second definition is rather simple but explains the basic assumption of coopetition: Bengtsson and Kock (2014) defined the coopetition interaction as paradoxical, which involves two or more actors that simultaneously involved in cooperative and competitive interactions.

Secondly, the aim of this research is to provide a clear view of how will the performances of the innovative enterprises would change due to the coopetition interactions by studying literature review from the relevant scientific articles and researches. Therefore the research question of the study is:

How would the coopetition interactions between the innovative small and medium-sized enterprises influence the performance of those involving enterprises?

In this study the independent variable would be the coopetition interactions between the innovative SMEs, and the dependent variables are the performances of those involving innovative SMEs (Figure 1).

![Figure 1. The relationship between the dependent variable and the independent variable in this paper](image-url)
3. LITERATURE FINDING
The literature findings will be presented in the way of discussion about the four aspects of the performance: the present value of the innovative SMEs (section 3.1), new product development (section 3.2), customer perception and relationships (section 3.3), and finally competitive advantage (section 3.4).

And apart from these four aspects of performance, which will be studied and concluded, the tensions in coopetitive interactions will also be discussed later in this section (section 3.5).

All of those four aspects of the performance will be firstly, discussed about the benefits, which the coopetitive interactions could impact on the performance of the innovative SMEs. And then the drawbacks of each aspect will then followed compare to the benefits, in order to depict a more complete picture of the total impact of coopetitive interactions on the performance of the innovative SMEs.

3.1 The present value of the innovative SMEs

3.1.1 The benefits: present value of the innovative SMEs
First of all, the strategic logic of coopetition can be concluded as to involve collaborative activities, which create value together and firm specific activities in capturing, dividing and appropriating that value. Thus it can be suggested that coopetition could increase the value of an innovative SME: in the way of both value creation and value capture. In terms of the former, it is the process, which value is created and delivered to the customers, and in terms of the latter it represents the process, which eventually lead to the capturing of value as well as the profit, thus it is associated with the activities to create the new market. Both results are the benefits of coopetition interactions (Paavo Ritala et al., 2014).

Especially for the innovative SMEs, the coopetitive interactions are even more strategic. Refers to Brandenburger and Nalebuff (1996), coopetitive interactions between the innovative SMEs can act as a means of increasing the size of participating firms’ current market, and therefore grow ‘the size of the pie’ as a result, thus for SMEs it could be vital for survival and to be profitable because without coopetition interactions between them, it might lead to the ‘zero-sum game’ instead of the ‘positive-sum game’.

Therefore, coopetition could increase the present value of the SMEs in terms of two ways: the first one is to increase the size of the current market, and the second way is to create a new market together (Paavo Ritala et al., 2014).

To conclude, coopetition interactions between the innovative SMEs can be very strategic because it allows the participating firms to leverage their resource complementarities in market expansion efforts, also the market expansion costs can be shared among those involving firms through supplementary resources (Paavo Ritala et al., 2014).

3.1.2 The drawbacks: present value of the innovative SMEs
However, apart from the value creation and create capture, within the coopetitive interaction could bring to the involved innovative SMEs, it could also have drawbacks regarding the present value of the firms.

Generally, as Bengtsson and Kock (2014) defined coopetition as cooperation and competition simultaneously, thus the competition side between the innovative SMEs could possibly impair the present value of the involved SMEs, for example: in order to increase the present value of the involved innovative SMEs, those SMEs need to work closely together, which means even for competitors, in coopetitive interactions they are still required to trust each other and share necessary knowledge and other tangible and intangible assets, but Bouncken and Kraus

In the next section, the method used to search for the academic literatures, and to analysis the literature findings will be presented.

2. METHODOLOGY
This literature review was done in mainly three steps:
Firstly, searched for the relevant literature reviews, which contain valuable information for answering both the research questions and the sub-questions; these relevant literature reviews mainly came from Science direct, Google Scholar and Scopus. And the key words to search was ‘impact of coopetition’, ‘knowledge-intensive enterprises/ innovative SMEs that involves in coopetition’, ‘performances of innovative SMEs as a result of coopetition’. Next, is to specify the area with more focus on innovative and SMEs. Moreover, the published time for the scientific literature was from 1995 to 2015. Finally, only the references from journal and book were selected in this paper.
And in table 1 (in appendix), the process of the searching progress is shown in 4 steps.
However, not only those 38 articles, which are related with the research question, will be used in this paper. But also other literatures that is relevant with the topic of innovative environment, the nature of competitive advantage and other academic papers that is related with the key words of this paper were be selected and used here.
Secondly, after rightly spotting the relevant literature reviews, the selected information and probably a few theories will be reviewed together to have a more complete picture of all the benefits and drawbacks from different studies and researches, and put under the appropriate sub-questions in order to answer the research question later.
And the last step is to discuss those different opinions towards the impact of coopetition on various involving innovative SMEs and arrive to a proper answer finally. And in the discussion part, the strategies, which can be used to minimize the negative impacts of coopetitive interactions, will be discussed.
As this study will review and gather results from various researches and studies thus this would be a qualitative analysis.

The next session the literature findings will be presented, based on the two aspects: the benefits and also the drawbacks of the innovative interactions. Finally, a conclusion will be presented, which is about the overall impact of coopetitive interactions on the performance of the innovative SMEs.
(2013) suggest that although in an environment of high trust, the innovative SMEs and their partners can benefit from a coopetitive interactions. However, in reality, especially in highly innovative market, trust and the relationships between parties can diminish and change at a quick pace, therefore this lack of trust could impair the present value of the involved innovative SMEs in the way of possibly use the shared knowledge for own purpose and etc.

3.2 New product development
3.2.1 The benefits: new product development

Coopetition interactions between the SMEs can create an opportunity for co-innovations (Boucikn & Kraus, 2013), and co-innovations are very relevant for the success of the SMEs because innovation is clearly a major constitutive element of any entrepreneurial activity, however for SMEs being innovative is a crucial challenge to innovate due to their smallness, limited resources and capability (Gnyawali, 2009; Morris, 2007).

Therefore a certain degree of collaborations are significant for technological progress and new product development in innovative SMEs (Winch, 2006), thus this indicates that, the relationships between each competitors are becoming more complex, and the markets demonstrate a mix of competition and cooperation is the best way out (Ganguli, 2007).

Through the coopetition between the SMEs competitors, the benefits of coopetition especially regarding the new product development and R&D development are: the dualism of collaborations and competition would help particularly innovative SMEs to share R&D costs and economics of scale (Miotti & Sachwald, 2003); to use synergistic effects through the pooling of the scarce resources (Mariani, 2009); and to search for the complementary resources from the partners or even from the competitors, that involved in coopetitive interactions (Ancarani & Costabile, 2010); finally distributes the potential risks among the involving enterprises (H. Meyer, 1998).

3.2.2 The drawbacks: new product development

However according to Cimon (2004), that although SMEs could benefit from the coopetition between each other, to sustain the success and the long-term relationships SMEs should avoid information, knowledge or learning asymmetries between partners while dealing with highly novel innovations.

Therefore, this indicates next to the benefits, which coopetitive interactions could bring to the involved innovative SMEs, there are also several disadvantages of it:

For new product development with a focus on coopetition, B.-J. Park, Srivastava, and Gnyawali (2014) suggest proper competitive intensity based coopetitive interactions can enhance innovative SMEs’ innovation outcomes, in the way of increasing their awareness of new products development and motivation of actively engaging in innovation projects, thus to strength involved SMEs innovation efforts as a consequence.

However, the success of coopetitive interactions is generally based on the equal knowledge sharing as well as proper competitive intensity, these two conditions are difficult to achieve (B.-J. Park et al., 2014).

First of all, knowledge sharing is quite contradictory for a coopetition interaction between SMEs. Because this refers to a problem of knowledge sharing for SMEs with competitors but at the same time trying to protect their intended leakage (De Rond & Bouchikhi, 2004). Thus the holdback of one’s own knowledge in coopetitive interactions can cause negative effects on the relationships, and ultimately have detrimental effects on one’s own innovation efforts too (B.-J. Park et al., 2014).

Secondly, sometimes the business environment of innovative SMEs is very dynamic and fast changing, thus the contributions of the partners from a coopetitive interaction can also be highly dynamic, and this would result in the appearances of partners opportunistic behaviors in order to attain their own benefits and competitive goals, but not the competitive goals of the joint venture (S. H. Park & Russo, 1996). Moreover, the innovative SMEs may try to protect them selves from the opportunistic behaviors of the partners to attain their core knowledge and other intangible assets. These activities will limit the flow of knowledge sharing and thus have negative effects, both for the coopetitive interactions and also the innovative outcomes (Kale & Perlmutter, 2000; B.-J. Park et al., 2014).

Also, in order to create an innovative output or to increase the creativeness of the R&D processes, trust is a necessary element that should be existed within successful coopetitive interactions. Nevertheless as discussed in the previous section, trust in real life can diminish vastly in especially highly innovative environment. As a result of this, the involved parties may not willing to share the information, especially the core knowledge and assets, and thus consequently, this can be a drawback if an innovative SME is not able to establish a trustful coopetitive interactions with the involved parties, because this can be a source to lose the competitive advantage (Luo, 2007).

3.3 Customer perception and relationships
3.3.1 The benefits: customer perception and relationships

For innovative SMEs, it is very strategic to manage the relationships with the customers and carefully deal with their opinions in order to ‘grow the pie’, which means to expand the market. Moreover, also to attract loyal customers as a target based on the coopetition interactions, and this in turn would increase customers’ satisfaction, as there is a positive relationship between the customer loyalty and customer satisfaction (Alajoutsijärvi, Mannermaa, & Tikkanen, 2000; Dabholkar, Shepherd, & Thorpe, 2000). Moreover, this increase in customers’ satisfaction as well as customers’ loyalty would result in the raise of profitability in the long-term based on a coopetition strategy (Hsieh, Lin, & Yuan, 2013).

Furthermore, 25% of innovative SMEs obtain valuable information from their customers as well as suppliers among a coopetitive relationship, thus this also point out that: the coopetitive interactions between the innovative SMEs are valuable for gathering the scarce information and also resources. Moreover, through making use of the opinions from the customers and suppliers, the involved SMEs thus are able to offer their customers better products which could bring enormous benefits: in terms of profitability and the increased customer value, i.e. the increased value creation for firms that are involved in coopetition interactions (Mention, 2011; Paavo Ritala et al., 2014).

Finally, Lacoste and Sylvie (2012) also mention that not only the horizontal relationships, e.g., the relationships among competitors matter for the coopetition interactions, but also the vertical relationships, which are the relationships between customers and suppliers, play vital roles. According to Anderson and Narus (2004), that the customer-seller relationships can improve the value creation and the customers’ competitive advantages.

3.3.2 The drawbacks: customer perception and relationships

Besides increasing value and profitability, coopetitive interactions can still have disadvantageous sides on the customer perception and relationships:

Generally, the long-term and trustful relationships between each partner in coopetitive interactions are quite essential, in order to further create value as well as the profitability. Because the miss of trust or the short-term uncertain relationship could reduce the efficiency of the communications, exchange possibilities between the partners (Iturrioz, Aragón, & Narvaiza, 2015). And
as a result of these possible negative effects, further negative impacts may be shown in the way of decreased value, less innovative output and etc.

Moreover, in order to maintain the relationships with the customers in coopetitive interactions, a shared common goal has to be agreed by all the involved SMEs. This is quite vital, as according to Iturrioz et al. (2015), the lack of agreed and harmony in goals and other activities could result in a fragmented framework, and then increase the costs and also the risks of innovation output as well as the innovative process. Therefore, if the involved innovative SMEs cannot maintain and manage the long-term, trustful relationship with the partners with common shared goals, the impact on the customer perception and relationships will be negative.

### 3.4 Competitive advantage

#### 3.4.1 The benefits: competitive advantage

Through coopetition the SMEs could possibly be able to protect and also improve their competitive position in the market, and to beat the competition from the third parties (Bouncken & Kraus, 2013). And Ma (1999) explains why it is possible for SMEs involved in coopetition: the SMEs can gain access to additional skills, know-how and also resources while at the same time they must protect their own assets. Furthermore, Quintana-Garcia and Benavides-Velasco (2004) also suggests that cooperation interactions between the SMEs could enable more technological diversity, as coopetitive SMEs pool their knowledge, technology and complementary resources.

Moreover, Wiener and Saunders (2014) suggests the leveraged direct coopetitive interactions between small and medium sized enterprises - the clients, and their multiple vendors can enhance the profitability as well as reputations, therefore thus ultimately the improved competitive position in future bidding processes. Furthermore, coopetitive relationships with the competitors could enable SMEs to develop or use technology it would otherwise have to do it alone (Morris, 2007). And according to Levy, Loebbecke, and Powell (2003), that SMEs that engage in coopetition strategy, sharing knowledge may be the key of the competitive advantage, especially under a dynamic and fast-changing business environment, which requires more innovative thinking and products. In this way, coopetition interactions between SMEs and their competitors can foster more creative thinking and ultimately the more innovative products, which would enhance the competitive positions of the involved enterprises in the market.

#### 3.4.2 The drawbacks: competitive advantage

However, instead of resulting in creating or maintaining the competitive advantages, coopetitive interactions are possibly also may bring some drawbacks that is related with the competitive advantage of the involved innovative SMEs:

From the view of Maria Bengtsson and Kock (2000), coopetition is the pursuit of cooperation and competition at the same time. But as Iturrioz et al. (2015) suggest, cooperative relationships play an important role in supporting and creating innovation and competitiveness, but coopetitive relationships have the possibility to reduce the competitive advantage of the innovative SMEs. This may reflect in the way of the partners may absorb and make use of the shared knowledge and other intangible and tangible assets for own use, and thus would decrease the partners’ competitiveness as a result (Bouncken & Kraus, 2013).

Moreover, according to Maria Bengtsson and Kock (2000) coopetitive relationships are quite complex, because they consist of two dramatically different logics of interactions: cooperation and competition, thus coopetition interactions require the involved innovative SMEs to cooperate and compete simultaneously.

And this coopetition concept is sometimes conflict with the nature of the competitive advantage. Refers to Maria Bengtsson and Kock (2000), in order to gain and also maintain the competitive advantage, the innovative SMEs need to avoid the transfer the core knowledge and know-how, to specially the competitors in the market. However, thus holdback of the core knowledge and assets can hamper the coopetitive interactions if an innovative SME had with its competitors, because for coopetitive interactions even with competitors, knowledge sharing is still a critical issue to main a long-term relationship (Tidström, 2014). Therefore, the conflict between the natures of competitive advantage and the concept of coopetitive interactions can become a source of disadvantage if the innovative SMEs cannot manage it well.

#### 3.5 Tensions

In this section, the tensions in coopetitive interactions will be studied and categorized, and further in the discussion part the relationship between tensions and the drawbacks of coopetitive interactions will be discussed.

Even though coopetition is itself beneficial, but coopetitive interactions are quite difficult to sustain and balance (M Bengtsson & Johansson, December 20). Therefore, the involved innovative SMEs must balance the tensions and also the conflicts for a coopetition relationship in order to harvest with the benefits for all the participating parties (Padula & Dagnino, 2007). Figure 3 summaries four main tensions in business coopetitive relationships.

![Figure 3. Four tensions within coopetitive relationships (based on Paavo Ritala and Tidström (2014))](Image)

Figure 3. Four tensions within coopetitive relationships (based on Paavo Ritala and Tidström (2014))

Firstly, one of the most serious tensions the innovative SMEs need to cope with is related with roles (Bengtsson & Johansson, 2012). Role tensions can be found at either the enterprises or individual level, and the conflicts would rise between cooperative and competitive orientation. For instance: from an enterprise level, it may face the conflicts between the goal of the enterprise and the goal of the common interests. And from an individual level, the individual may face role tensions when he interacts within SMEs for cooperation, and simultaneously in a relationship with a competitor, which the SMEs build a coopetitive relationships with (Tidström, 2014).

Secondly, apart from the roles tensions, knowledge can also cause certain tensions and conflicts for the innovative SMEs that involved in the coopetitive interactions. Since knowledge can become a source of competitive advantage thus for the parties involved in coopetitive interactions, sharing knowledge can be crucial as it would adds value to each participants (Chin, Chan, & Lam, 2008). Therefore the tensions and conflicts may rise when it comes to the choice of whether to use the shared
knowledge for the mutual gains for all the involved parties, or to use the shared knowledge for private gains to outperformed competitors.

Moreover, the third tension that will be discussed is power and dependence. For innovative SMEs this kind of tension is extremely crucial, as smaller enterprises are more likely to become dependent on a larger more powerful one with more resources (Osarenkhoe, 2010), and this would cause the more powerful party to exploit its power to force the SMEs or the smaller party to act in its best interests, but not the best interests for all. Thus during a coopetitive relationships, especially for innovative SMEs, the unbalance in power and dependence represent a loss of competitive advantage (Tidström, 2014).

Furthermore, for innovative SMEs that involved in coopetitive interactions, even though they have the right culture and clear mindsets for innovative ideas, however due to their smallness and large power difference with their partners or competitors, the innovative SMEs face high risk of opportunism (Bouncken & Kraus, 2013). This indicates the shared knowledge as well as resources of the innovative SMEs, may be exploited by the competitors or other powerful parties involved in coopetitive interactions, to act in a one-way fashion and appropriate the SMEs core technologies, resources and ideas, thus this high risk of opportunity can be detrimental for the innovative SMEs once it occurs (P. Ritala & Hurmelinna-Laukkanen, 2009).

Next section will be the discussion about the balance the impact of coopetitive interactions on the performance of the involved innovative SMEs.

4. Discussion

In this section, firstly a framework based on the previous findings will be presented (figure 4), and then a few explanations about the framework, as well as the relationship between the role tensions and those impacts of the performance will follow. Finally, few strategies will be studied, and those will be about how to balance the benefits, and the negative impact of coopetitive interactions on innovative SMEs.

From the literature findings above, it can be seen that, the coopetitive interactions between the innovative SMEs do has certain impact on the performances of those involving enterprises. Thus the insights of the possible impacts will be discussed and concluded.

4.1 The insights of the framework

The first aspect of the performance is about the present value of the innovative SMEs. The innovative SMEs are expected to increase the present value through coopetitive interactions in two ways: either by enlarging the current market together with the partners, or to explore and create a new market together with the partner, which is value appropriation and value creation separately. However, in coopetitive interactions, in order to increase the present value of the innovative SMEs, the involved partners are all required to work closely so that the shared knowledge and assets can be transferred easily. But between each partner, trust can be missing or quite weak. This could reflect in the performance in negative ways as decrease in the motivation of participating in the market creation process and etc. The second aspect is regarding the new product development. Refers to Tzokas, Kim, Akbar, and Al-Dajani (2015) that in today’s fast changing business environment, especially for knowledge-intensive SMEs, it is vital to acquire and use the external knowledge and also technology, etc., in order to sustain their innovativeness in the market.

From the previous finding, coopetitive interactions between the innovative SMEs can have impact on new product development in the way of: improve the innovativeness of new product development process as well as technological output, and also the involved innovative SMEs are able to reduce the costs of R & D projects, increase the economic scale through coopetitive interactions. Moreover, the involved innovative SMEs can pool their resources together and therefore gain access to the scarce resources or the resources that the enterprise itself does not possess. Also, the innovative SMEs and the partners in coopetitive interactions can complement each other possibly with resources. Finally, coopetitive interactions can reduce the risks by distributing uncertainties among the innovative SMEs and the partners.

However, also from previous it can found that, there are also several negative impacts of coopetitive interactions on the performance of innovative SMEs:

First is the impossibility of transferring all the core technology and other assets between the partners, which mean the knowledge sharing process, can be difficult to implement in a useful way. Also, the partners could exploit the shared knowledge and assets for their own purpose, and moreover innovative SMEs would also holdback the technology and assets while involving in coopetitive interactions, these difficulties and possible behaviors can be the negative impact of the coopetitive interactions.

Next, another aspect of performance is about the competitive advantage. And the benefits relating with the increase in competitiveness in coopetitive interactions is found in following ways: gaining access to additional skills, technology, assets and etc., also by increase the technology diversity. Moreover when clients and vendors both involved in coopetitive interactions, the profitability and the reputation of involved clients and vendors are both expected to be increased. Furthermore, by sharing the knowledge among the partners, those innovative SMEs can gain competitive advantages in the market.

The drawbacks related with the competitive advantage are mainly discussed about the conflicted nature between cooperation and competition. And the conflicting of both cooperation and competition will affect the performance of innovative SMEs in negative ways.

Finally, the coopetitive interactions can enhance the relationships with the customers as well as increase the perception of customers. Generally, through coopetitive interactions the innovative SMEs can increase customers’ satisfaction and loyalty, and thus the profitability of the involved SMEs can also increase as a result. Also, by strengthening the relationship of customers and suppliers, the value creation can be improved.

However, distrust and disagreed common goals can be the negative effects of coopetitive interactions, and further it can be reflected in several ways, for example: relationships between partners will be short-termed and untruthful, thus therefore in turn affect the relationship in a negative way.

4.2 Tensions

In this section, several strategies to manage the tensions in coopetitive interactions will be discussed, because to reduce the tensions and conflicts, the performance of innovative SMEs are expected to be better.
For the four aspects of tensions: role tensions, knowledge tensions, opportunism tensions, and power & dependence tensions, they are all closely related with the drawbacks of the coopetitive interactions on the performance of innovative SMEs. Because tensions and also conflicts, can result in distrust between partners in coopetitive interactions. And the miss of trust between the partners would then in turn impede the coopetitive relationships between partners, as with trust the partners could be more motivated to, for example: sharing the knowledge, communicating with each other and better utilize the shared information. Therefore, trust is quite relevant for the innovative SMEs, which involved in coopetitive interactions, in the way of understanding the how the partners will balance the own interests against the common interests (Tidström, 2014). Thus, this indicated the proper management about the potential tensions as well conflicts would benefit the coopetitive relationships. Because refers to Tidström (2014), tensions and conflicts are reviewed as interchangeable, and both tensions and conflicts can have the certain potential to break up a relationship in coopetitive interactions, moreover they are also the primary cause of worsening the partnerships, for example: the differences in cultures, processes and organizational fit and etc., between partners would lead to the tensions and conflicts, which would then in turn affect the performance of innovative SMEs in negative ways.

In the next section, few strategies will be introduced in order to better manage the tensions and also conflicts in coopetitive interactions, so that the level of trust between partners can then be increased consequently, and finally the drawbacks of coopetitive interactions on the performance of innovative SMEs will then be mitigated to some extends.

### 4.3 Strategies

In this section, the strategies regarding how to balance the benefits and the drawbacks of the coopetitive interactions on performances of innovative SMEs will be discussed. Generally, tensions and conflicts in coopetitive interactions are inevitable, and they seldom will result in mutually positive outcomes (Tidström, 2014). Therefore, the strategies to reduce the tensions and conflicts play a key role in minimizing the negative impact of coopetitive interactions on the performance.

There are two mainly strategies related (figure 5):

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**New product development**

**Benefits:**
- technological progress and NPD development
- share R&D costs and economics of scale
- use scarce resources together
- search for complementary resources
- distributes risks

**Drawbacks:**
- knowledge sharing is difficult in reality
- opportunistic behavior of partners
- reaction of SMEs to prevent opportunism
- lack of trust

**The present value**

**Benefits:**
- increase the size of the current market
- create a new market together

**Drawbacks:**
- lack of trust

**The performance of innovative SMEs involved in coopetition interactions**

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**Competitive advantage**

**Benefits:**
- access to additional skills and etc.
- technological diversity
- clients and vendors coopetitive interactions → profitability + reputation
- sharing knowledge

**Drawbacks:**
- lack of trust
- conflicts between coopetition and nature of the competitive advantage

**Customer perception and relationships**

**Benefits:**
- increase in customer’s royalty + satisfaction → profitability
- strengthen the relationships with customers + suppliers → improve the value creation

**Drawbacks:**
- lack of trust
- differences exist between partners

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**Figure 4. The framework: the impact of coopetitive interactions on the performance**
Figure 5. The strategies for mitigating the negative impact of coopetition, on the performance of innovative SMEs (Based on “FORM 6-1 - Mutual Non-Disclosure Agreement” 2008)

Firstly in coopetitive relationships, the commitments for mutual gains have to be supported by all the partners involved in coopetitive interactions, because commitment is defined as the desire to maintain a valued relationship, and it is found to be beneficial for the future and long-term oriented relationship (Ndubisi, 2011).

Moreover, the commitments, which are agreed and supported by the partners, can help to strengthen the coopetitive relationships between the involved partners. Because the commitments can enhance the trust among the involved partners, which would in turn stabilize the mutual relationships and also expectations and provides a safe environment for sharing resources and communications (Turrioz et al., 2015).

Furthermore, although the commitments can reduce the mistrust between the partners in coopetitive interactions to some extends, the commitments can be vulnerable facing the opportunism and especially in a fast-changing environment (Tomlinson & Fai, 2013). For innovative SMEs, the vulnerability of commitments is also relevant, because generally the shortage of resources, knowledge and also the pressure for survival in innovative market will make them more likely to behave opportunistically (Tomlinson & Fai, 2013). Therefore, a mutual non-disclosure agreement can help partners, which involved in the coopetitive interactions to avoid spillover of the core knowledge and other intangible assets. This is because in the mutual non-disclosure agreement, the information and knowledge that must be confidential will be clearly included and defined in order to restrict the flow of these core information and knowledge only within the involved parties (“FORM 6-1 - Mutual Non-Disclosure Agreement,” 2008). Thus with a mutual non-disclosure agreement, the innovative SMEs can expect to reduce the tensions and conflicts by increasing a certain level of trust.

Next, tensions and conflicts may rise due to the difference of organizational culture, structure fit and future goals (Tidström, 2014). However, this kind of tensions and conflicts can be minimized, by providing the employees who would participate in coopetitive interactions with proper training sessions. The training can be valuable since the tensions and conflicts in coopetitive interactions are inevitable, with the proper training the employees can better cope with the differences between each partners in, for example: organizational structure, goals and processes. Thus this indicates the training offers to the employees can provided them with the necessary skills to cope with the tensions and conflicts in coopetitive interactions. And refers to Brown, Gray, McHardy, and Taylor (2015), trust between partners can be increased with the increased in the number of training session offered.

From above, the main strategies for mitigating the tensions and conflicts are: sign the mutual non-disclosure agreement with the partners in coopetitive interactions, and offer the employees the proper training in order to better cope with the differences between partners. The level of trust can be increased consequently, and thus the drawbacks of coopetitive interactions on the performance of the innovative SMEs can be minimized as a result.

5. CONCLUSION

In summary, this paper is dedicated to gain a better understanding about the impact of coopetitive interactions on innovative SMEs, in the way of literature review. By reviewing several relevant academic papers about the benefits and drawbacks of coopetitive interactions, in section 4 the framework is presented (figure 4), based on four aspects of performances: new product development, present value, customer perception and relationships, and finally competitive advantage.

For new product development, the benefits can be: the first aspect according to Winch (2006), is that coopetitive interactions between the innovative SMEs could be beneficial to their technological development progress, and also the new product development progress as well. For example: with the aid of the coopetitive interactions, the innovative SMEs could have better capacity so that they could better exploit the network relationships as well, and therefore have better knowledge sharing process (Tomlinson & Fai, 2013). This would in turn benefit the new product development process, and ensure the innovativeness of the output for all the innovative SMEs, which involve in the coopetitive interactions.

Next is that, though coopetitive interactions, the innovative SMEs are able to share the R&D costs with their partners in the coopetitive network, because they together work through the innovative process and also the new product development, this indicates that all the expenses regarding the these coopetitive process will be shared among the partners. Therefore this will result in the reduces of R&D costs, and thus increase the number of profitable innovations by gathering more intelligences together through coopetitive interactions (Tomlinson & Fai, 2013).

Moreover it is similar when it comes to the situation that, from the opinions of Miotti and Sachwald (2003) that the innovative SMEs would benefit from coopetitive interactions, in the way of making use of the scarce resources from other partners. This is strategic for the innovative SMEs to create an opportunity to absorb the external knowledge and the scarce resources in order to increase the competitiveness on innovation (Ghobadi & D’Ambra, 2012).

Furthermore, another benefit that coopetitive interaction could create for the involving innovative SMEs is the opportunity to search for the complementary resources from their partners. And Bouncken and Kraus (2013) suggest that, those complementary resources could level up the intensity of competition in group size, and also less tension among partners when they all compete with the third competitors (Perks & Easton, 2000).

Finally, the risks can be greatly reduced through the coopetitive interactions among the innovative SMEs. Bougrain and Haud eveille (2002) state that, because the innovative SMEs normally have less market shares, which would make the innovation and new product development become more risky than the mature enterprises. However, for the innovative SMEs that involves in coopetitive interactions, the risks can be shared among partners and create secure contacts also (H. Meyer, 1998). And for the drawbacks, although De Rond and Bouchikhi (2004) suggest that coopetitive interactions could stimulate the knowledge sharing between the involving innovative SMEs, but it is rather difficult to achieve it in the real world. Because Bouncken and Kraus (2013) point out that it is quite impossible
for the innovative SMEs to exchange each others’ knowledge and other tangible or intangible assets equally, as some of the core knowledge can become the key to gain competitive position in the market, therefore it is quite difficult for the innovative SMEs to gain access to the knowledge or other assets freely, which would in turn affect the performance of the innovative SMEs that involve in coopetitive interactions in a bad way.

Next drawback is concerned about the possible opportunistic behavior of the partners. Levy et al. (2003) suggest for innovative SMEs, it is even more risky to be involved in cooperation interactions, because the partners may use the shared knowledge or assets for other purpose in the future besides use it for the common interests with other partners.

And because of the possible opportunistic behavior of the partners, the innovative SMEs in coopetitive interactions would thus try to protect their core knowledge and assets from being exploited by other partners (Kale & Perlmutter, 2000), and this would result in the increase in difficulty of the knowledge and assets sharing and transferring, and finally the performance of those involving innovative SMEs.

The second aspect is about the present value of the SMEs, which involve in the coopetitive interactions. And the increase in the present value will reflect in two ways.

The first way is to increase the size of the current market, thus this indicates that in coopetitive interactions the SMEs would gather together their resources, knowledge and other tangible or intangible assets together to increase their markets together against other potential competitors (P. Ritula & Hurmelinna-Laukkanen, 2009).

Another way is to increase the present value by creating a new market. Because according to Tushman and O'Reilly (2002) suggest coopetitive interactions between SMEs could create more innovations, which in turn can create a new market for those innovative products, in the way of altering customers’ behaviors and even values.

The drawback regarding the present value is lack of trust, which in turn would worsen the coopetitive interactions.

The third aspect of performance is the competitive position in the market. And the main features that shall contribute to the competitiveness will be discussed in the following:

Firstly, because the innovative SMEs are able to access to each other’s knowledge bases, skills and etc., thus they can integrate these accessible intangible and tangible assets in order to become competitive in the market (Enberg, 2012).

Next is concerning about the technology diversity, refers to March (1991) that the technological diversity, especially for international innovative SMEs, can spread the risks and also reduce the costs of technological development, and in the end would possibly create a competitive position in the market (Enberg, 2012).

Then comes to the situation when the clients and vendors are all involve in the coopetitive interactions, in this situation Wiener and Saunders (2014) state that this kind of interactions between clients and vendors could stimulate the profitability as well as the reputation for all the involving innovative SMEs, and thus in turn sustain their competitive advantage as a whole in the market.

Finally, by sharing knowledge in competitive interactions, the innovative SMEs are able to share knowledge, also other few things together: distribution channels, manufacturing facilities and etc., in this way those innovative SMEs can develop more innovative products with less costs, and thus have better opportunity to gain the competitive position (Li, Qian, & Qian, 2012).

The drawbacks of coopetitive interactions reflect in competitive advantage are: the role conflicts can result in negative impacts, and the role conflicts can be either individual level of role conflicts, or enterprise level of role conflicts. Also, in coopetitive interactions it is sometimes quite difficult to deal with the relationship with the partners, which at the same time can also be competitors, because those innovative SMEs need to make a justified decision about if they should share the knowledge and other assets with partners or competitors.

Furthermore, the differences in sizes of innovative SMEs can result in power unbalance in coopetitive interactions, and normally the smaller one will be more dependent on the larger one, thus this can result in lack of control of the SME itself in a coopetitive interactions. Next is because the opportunistic of behaviors for innovative SMEs can exist, therefore the relationships between the innovative SMEs in coopetitive interactions are becoming complex to deal with.

Finally, from the previous study it can be concluded that, the nature of competitive advantage can be conflicted with the concept of coopetitive interactions, as for competitive advantage it may require to keep the core knowledge or assets away from the competitors, however for coopetitive interactions, to share the knowledge among partners or even competitors is sometimes required. Also, as in real world between the innovative SMEs, not every relationship with the partners can maintain in a long time, thus this lack of trust can affect the performance of the innovative SMEs in negative ways.

Finally, last but the least aspect of performance is about the customer perception and relationships, Hsieh et al. (2013) suggest the increase in customers’ satisfaction and better relationships with them could do good to those involving enterprises. And Hong and Snell confirm the coopetitive interactions could be virtuous to sustain a long-term relationship with the customers and therefore, this would be beneficial for the innovative SMEs which involve in coopetitive interactions.

Furthermore, apart from the increase in customers’ satisfaction, coopetitive interactions are able to improve the value creation by strengthening the relationships with the customers. Because of the coopetitive interactions, the profits and innovativeness of the innovative SMEs can be increased. Thus as a result, the value of involving SMEs will be improved also (Mention, 2011).

And the drawbacks of coopetitive interactions regarding the customer perception could be: the nature of competitive advantage is conflict with the nature of coopetitive. Because in order to gain competitive advantage in the market, the enterprises will have to protect their own core knowledge, technology and other assets from being exploited by the competitors as long as possible (Tidström, 2014), and this thinking and activity follows is of course opposite to the theory of coopetitive interactions: in coopetitive interactions, the innovative SMEs are expected to share the knowledge and etc. together in order to compete better in the market (Enberg, 2012).

Moreover, in real world the relationship between the innovative SMEs that involves in coopetitive interaction can be complex, this means that the ideal relationship may not existed and between the innovative SMEs, especially when they are competitors, they may not trust each other while when it comes to share the knowledge and other assets, thus the lack of trust could make the coopetitive interactions not work as useful as that in the theory (Luo, 2007).

Tensions and also conflicts in coopetitive interactions play a key role in influencing the performance of innovative SMEs in the negative ways. As refers to Bengtsson and Johansson (2012) that relationship tensions are either be conflict in enterprise level: the difficulty to deal with the own purpose and the common purpose with the partners, or be conflict in the individual level: cannot manage the relationships with the competitors in a right way.

And even for the innovative SMEs, there are still some unbalances in power in the coopetitive interactions, which would then result in the less powerful one, become more dependence
on the more powerful, and this dependence will do no good to the performance of the innovative SMEs (Tidström, 2014). Moreover, the relationship conflicts can also be about the possible opportunistic behavior of partners, thus it is rather difficult to deal with the partners with the right attitudes (Levy et al., 2003).

Finally, two strategies are presented in order to minimize the negative impacts of coopetitive interactions as much as possible: sign the mutual non-disclosure agreement with the partners, and also offer the employees the proper trainings, both methods are expected to increase a certain level of trust in coopetitive interactions, and to mitigate the drawbacks to some extends consequently.

6. Limitations and further research

From above, although the framework summarizes and presents four aspects of benefits and drawbacks in details, in order to better understand the impact of coopetitive interactions on the innovative SMEs, there are still some limitations in this study:
First of all, apart from these four aspects of benefits and drawbacks for the impact of coopetitive interactions on innovative SMEs, there are of course still other aspects that is not included and discussed in this study, for example: the impact of coopetitive interactions may not only on technological output of those involving innovative SMEs, but also maybe on the human resources of those innovative SMEs. This can be studied in the near future.
Moreover, for the framework presented in section 4, the discussion and also the result may vary in different country, also may be different if the innovative SMEs has different culture inside, for example: when the founders have different value than others, this may also affect the impact of coopetitive interactions on it. Therefore, future research can be done more detailed in these directions, in order to have a more complete view towards the impact of coopetitive interactions on different innovative SMEs.
Finally, it is also necessary to find out if there are other strategies, which can be used to mitigate the negative impacts of coopetition, so that the involved innovative SMEs and their partners can benefit more from the relationship.
## Appendix

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<tr>
<th>Key Word</th>
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<td>Tensions and conflicts in coopetitive interactions;</td>
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<td>Trust in coopetition; Strategies to mitigate the negative impact of</td>
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<td>Time</td>
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<tr>
<td>Content</td>
<td>Journal; book</td>
<td>38 articles</td>
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Table 1. The process of searching for the relevant academic literatures
REFERENCES


Hong, J. F. L., & Snell, R. S. Knowledge development through co-opetition: A case study of a Japanese foreign subsidiary and its local suppliers. Journal of World Business(0). doi: http://dx.doi.org/10.1016/j.jwb.2015.03.003


