

# **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 cooperative interactions in supply management are being found common. Therefore cooperative interactions draw the attention of many researchers. However, there is still not a research yet that addresses the impact of cooperative interactions especially for the innovative small and medium enterprises (SMEs).**

**Thus this paper is dedicated to investigate the impact of cooperative 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 cooperative 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 cooperative interactions will be explained, and thus few strategies regarding how to mitigate those negative impacts will be discussed.**

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## **Keywords**

The benefits and drawbacks of coopetition on the involved innovative firms

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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, cooptation has been found most outstanding and strategically which the enterprises across different industries are involved in (Powell, Koput, & Smith-Doerr, 1996). And managing cooptative 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 cooptation 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 cooptative 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 cooptation interactions, according to Bengtsson and Kock (2014) there are already many researches and studies been done regarding either competitive or cooperate forces between the enterprises. However, there are little studies that focus on the interactions of both competitive and cooperate forces as well as their consequences simultaneously.

Furthermore, among the existing cooptation literatures it is observed that many enterprises involve in cooptation 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 cooptation interactions for small and medium sized highly-innovative enterprises, thus they suggests there is still lack of a thorough review over the impact of cooptation 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 (Propriis, 2002; Rogers, 2004).

As a result it is interesting to examine the impact of cooptation on the innovative SMEs to be aware of how will cooptation 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 cooptation 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 cooptation in various innovative SMEs that are involved (Bouncken & Kraus, 2013).

Therefore, from above it is clear to see that the cooptation interactions between the innovative SMEs and its influence on those enterprises, i.e. the impact of cooptative interactions on

those involving innovative SMEs is a topic that worth reviewing systematically.

Therefore, in this paper the benefits and drawbacks of cooptative interactions on the innovative SMEs will be concluded and discussed subsequently. And in the discussion part, the relationship of tensions and the drawbacks of cooptative interactions will also be discussed, and finally the strategies, which expect to mitigate the negative impacts of cooptation, 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 cooptation needs to be clearly stated for the later studies. Generally there are two definitions which are used in this paper: Afuah (2004) suggests that cooptation can be seen as a value-net which comprise an enterprise's suppliers, customers, competitors and complementors. This definition concerns about the participants involves in the cooptation interactions. The second definition is rather simple but explains the basic assumption of cooptation: Bengtsson and Kock (2014) defined the cooptation 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 cooptation interactions by studying literature review from the relevant scientific articles and researches. Therefore the research question of the study is:

How would the cooptation 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 cooptation interactions between the innovative SMEs, and the dependent variables are the performances of those involving innovative SMEs (Figure 1).

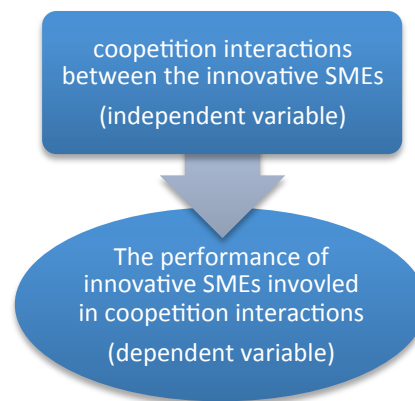


Figure 1. The relationship between the dependent variable and the independent variable in this paper

The small and medium-sized innovative firm in this study can be defined as the formal enterprise with annual turnover, in U.S. dollar terms, of between 10 and 1000 times the mean per capita gross national income at purchasing power parity of the country in which it operates (Gibson, 2008).

The performances here can be categorized into four aspects in order to define it: economical performance, i.e. the present value of the firm, new product development including R&D input and results, customer perceptions and relationships, and of course competitive positions in an innovative market (M. W. Meyer, 2005). And figure 2 shows the four aspects of the performance, which will be discussed in this paper.

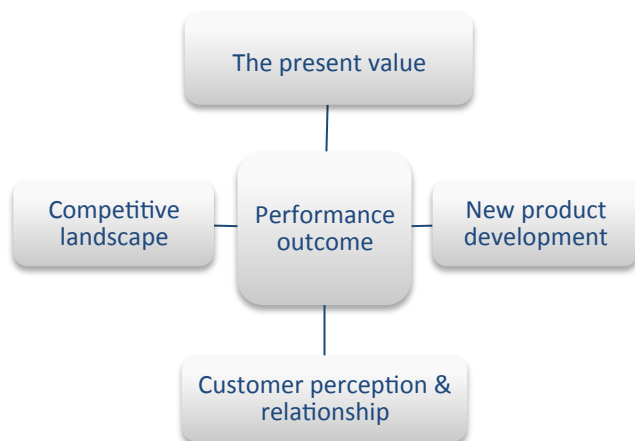


Figure 2. The four main categories of the benefits for cooperative interactions (based on Paavo Ritala, Golnam, and Wegmann (2014), Winch (2006), Mention (2011), (Bouncken & Kraus, 2013))

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 cooperation', 'knowledge-intensive enterprises/ innovative SMEs that involves in cooperation', 'performances of innovative SMEs as a result of cooperation'. 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 cooperation 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 cooperative 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 cooperative interactions on the performance of the innovative SMEs.

## 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 cooperative 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 cooperative 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 cooperative 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 cooperation 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 cooperation 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 cooperative interactions (Paavo Ritala et al., 2014).

Especially for the innovative SMEs, the cooperative interactions are even more strategic. Refers to Brandenburger and Nalebuff (1996), cooperative 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 cooperative interactions between them, it might lead to the 'zero-sum game' instead of the 'positive-sum game'.

Therefore, cooperation 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, cooperative 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, which the cooperative 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 cooperation 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 cooperative interactions they are still required to trust each other and share necessary knowledge and other tangible and intangible assets, but Bouncken and Kraus

(2013) suggest that although in an environment of high trust, the innovative SMEs and their partners can better benefits from a cooperative 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 (Bouncken & 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 cooperation 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 cooperative 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 cooperative 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 cooperative intensity based cooperative 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 cooperative interactions is generally based on the equal knowledge sharing as well as proper cooperative intensity, these two conditions are difficult to achieve (B.-J. Park et al., 2014).

First of all, knowledge sharing is quite contradictory for a cooperative 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 cooperative 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 cooperative 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 themselves 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 cooperative 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 cooperative 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 cooperative 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 cooperative 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 cooperative strategy (Hsieh, Lin, & Yuan, 2013).

Furthermore, 25% of innovative SMEs obtain valuable information from their customers as well as suppliers among a cooperative relationship, thus this also point out that: the cooperative 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 cooperative 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 cooperative 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, cooperative interactions can still have disadvantageous sides on the customer perception and relationships:

Generally, the long-term and trustful relationships between each partner in cooperative 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 cooperative 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 cooperation 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 cooperation: 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-García and Benavides-Velasco (2004) also suggests that cooperation interactions between the SMEs could enable more technological diversity, as cooperative SMEs pool their knowledge, technology and complementary resources.

Moreover, Wiener and Saunders (2014) suggests the leveraged direct cooperative 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, cooperative relationships with the competitors could enable SMEs to develop or use technology it would otherwise has to do it alone (Morris, 2007). And according to Levy, Loebbecke, and Powell (2003), that SMEs that engage in cooperation 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, cooperation relationships 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, cooperative 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), cooperation 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 cooperative 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) cooperative relationships are quite complex, because they consist of two dramatically different logics of interactions: cooperation and competition, thus cooperation interactions require the involved innovative SMEs to cooperate and compete simultaneously.

And this cooperation 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 cooperative interactions if an innovative SME had with its competitors, because for cooperative 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 cooperative interactions can become a source of disadvantage if the innovative SMEs cannot manage it well.

### 3.5 Tensions

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

Even though cooperation is itself beneficial, but cooperative 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 cooperation relationship in order to harvest with the benefits for all the participating parties (Padula & Dagnino, 2007). Figure 3 summaries four main tensions in business cooperative relationships.

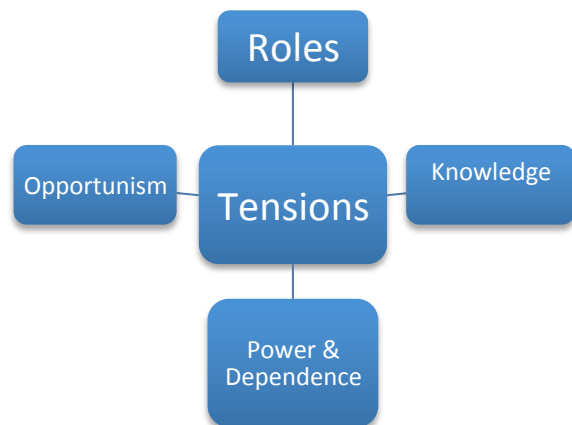


Figure 3. Four tensions within cooperative relationships (based on Paavo Ritala and Tidström (2014))

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 cooperative 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 cooperative interactions. Since knowledge can become a source of competitive advantage thus for the parties involved in cooperative interactions, sharing knowledge can be crucial as it would adds value to each participators (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 coepetitive 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 coepetitive 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 coepetitive 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 coepetitive 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 coepetitive interactions on innovative SMEs.

From the literature findings above, it can be seen that, the coepetitive 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 coepetitive 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 coepetitive 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, coepetitive 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 coepetitive 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 coepetitive interactions can complement each other possibly with resources. Finally, coepetitive 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 coepetitive 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 coepetitive interactions, these difficulties and possible behaviors can be the negative impact of the coepetitive interactions.

Next, another aspect of performance is about the competitive advantage. And the benefits relating with the increase in competitiveness in coepetitive 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 coepetitive 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.

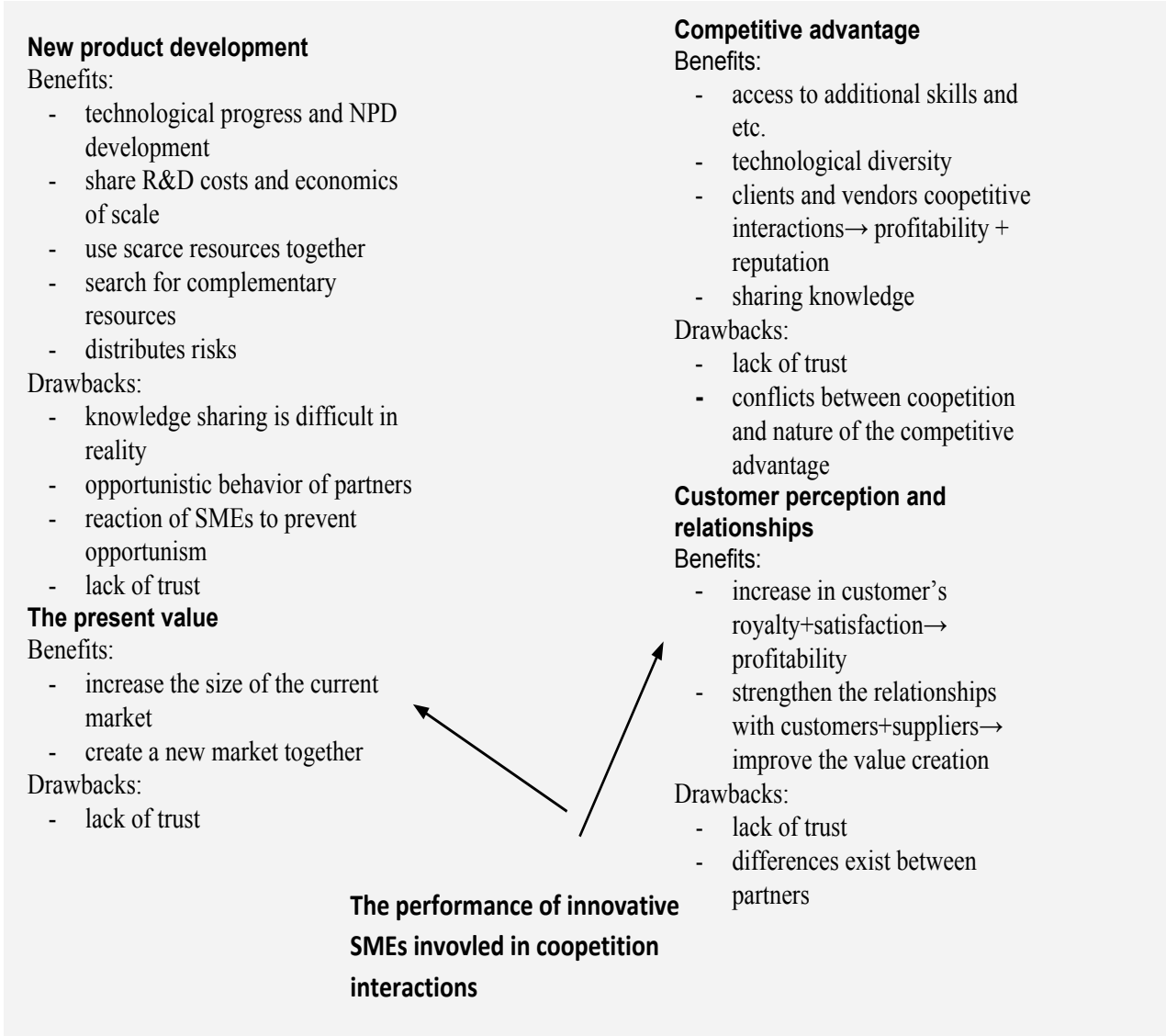
The drawbacks related with the competitive advantage are mainly discussed about the conflicted nature between cooperation and competition. And the conflicting of both cooperation and competition will affect the performance of innovative SMEs in negative ways.

Finally, the coepetitive interactions can enhance the relationships with the customers as well as increase the perception of customers. Generally, through coepetitive 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 coepetitive 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 coepetitive interactions will be discussed, because to reduce the tensions and conflicts, the performance of innovative SMEs are expected to be better.



**Figure 4. The framework: the impact of cooperative interactions on the performance**

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 cooperative interactions on the performance of innovative SMEs. Because tensions and also conflicts, can result in distrust between partners in cooperative interactions. And the miss of trust between the partners would then in turn impede the cooperative 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 cooperative 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 cooperative 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 cooperative 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 cooperative interactions, so that the level of trust between partners can then be increased consequently, and finally the drawbacks of cooperative 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 cooperative interactions on performances of innovative SMEs will be discussed. Generally, tensions and conflicts in cooperative 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 cooperative interactions on the performance. There are two mainly strategies related (figure 5):

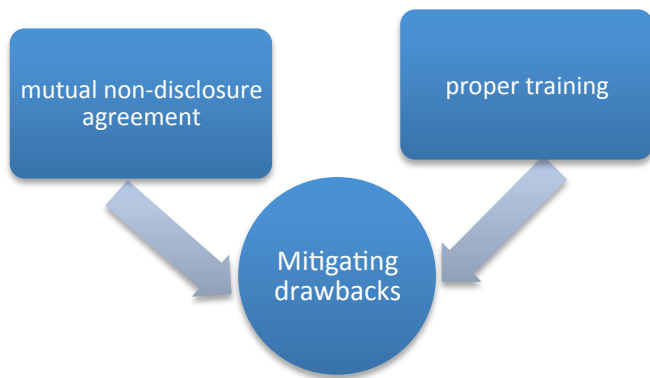


Figure 5. The strategies for mitigating the negative impact of coepetition, on the performance of innovative SMEs (Based on "FORM 6-1 - Mutual Non-Disclosure Agreement" 2008)

Firstly in coepetitive relationships, the commitments for mutual gains have to be supported by all the partners involved in coepetitive 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 coepetitive relationships between the involved partners. Because the commitments can enhance the trust among the involved partners, which would in turn stabilizes the mutual relationships and also expectations and provides a safe environment for sharing resources and communications (Iturrioz et al., 2015).

Furthermore, although the commitments can reduce the mistrust between the partners in coepetitive 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 coepetitive 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 them with the necessary skills to cope with the tensions and conflicts in coepetitive interactions with proper training sessions. The training can be valuable since the tensions and conflicts in coepetitive 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 coepetitive 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 coepetitive 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 coepetitive 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 coepetitive interactions on innovative SMEs, in the way of literature review. By reviewing several relevant academic papers about the benefits and drawbacks of coepetitive 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 coepetitive 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 coepetitive 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 coepetitive interactions.

Next is that, though coepetitive interactions, the innovative SMEs are able to share the R&D costs with their partners in the coepetitive network, because they together work through the innovative process and also the new product development, this indicates that all the expenses regarding the these coepetitive 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 coepetitive 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 coepetitive 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 coepetitive 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 coepetitive interactions among the innovative SMEs. Bougrain and Haudeville (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 coepetitive 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 coepetitive 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 coepetitive 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 coepetition 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 coepetitive 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 coepetitive 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 coepetitive 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. Ritala & 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 coepetitive interactions between SMEs could create more innovative products, 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 coepetitive 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 coepetitive 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).

And the drawbacks of coepetiitive 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 coepetitive 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 coepetitive 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 coepetitive interactions. Next is because the opportunistic of behaviors for innovative SMEs can exist, therefore the relationships between the innovative SMEs in coepetitive 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 coepetitive interactions, as for competitive advantage it may require to keep the core knowledge or assets away from the competitors, however for coepetitive 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 coepetitive 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 coepetitive interactions.

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

And the drawbacks of coepetitive interactions regarding the customer perception could be: the nature of competitive advantage is conflict with the nature of coepetitive. 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 coepetitive interactions: in coepetitive 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 coepetitive 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 coepetitive interactions not work as useful as that in the theory (Luo, 2007).

Tensions and also conflicts in coepetitive 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 coepetitive 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 coepetitive 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 coepetitive 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 coepetitive 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 coepetitive 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 coepetitive 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 coepetitive 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 coepetitive 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 coepetition, so that the involved innovative SMEs and their partners can benefit more from the relationship.

## Appendix

|                 |   |              |
|-----------------|---|--------------|
| <b>Key Word</b> | Impact of cooptation on the performances of innovative SMEs;<br>Benefits and drawbacks in competitive advantage, present value, new product development, customer perception and relationships;<br>Tensions and conflicts in cooptative interactions;<br>Trust in cooptation; Strategies to mitigate the negative impact of cooptation; | 385 articles |
| <b>Area</b>     | Innovative; SMEs  | 38 articles  |
| <b>Time</b>     | 1995-2015   | 38 articles  |
| <b>Content</b>  | Journal; book   | 38 articles  |

Table 1. The process of searching for the relevant academic literatures

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