



# Management of a supplier collaboration - The usage of control and coordination mechanisms

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**Abstract**

The objective of this study was to understand how in a buyer-supplier relationship the collaboration of a buyer and a supplier is managed from the buyer's perspective, in terms of what kind of control and coordination mechanisms are used for it and why. This objective was selected due to an interest to the contemporary business landscape, where various kinds of alliances and inter-firm relationships are increasingly common, and thus the understanding how alliances are, or should be, managed is a key capability in today's business world.

The study was conducted as a qualitative case study, in which it was studied how a large Finnish MNC manages the collaboration with one of its Chinese suppliers. Three theoretical frameworks were used: two higher level frameworks and one detailed framework. The first higher level framework consisted of the coordination mechanisms from Bartlett and Ghoshal (2002), while the second one comprised higher level control typologies, often divided into market, hierarchical and some alternative patterns. The third, detailed framework was an inter-firm management control systems (MCS) package, which was constructed by utilizing MCS control package from Malmi and Brown (2008) as a basis. It can be concluded that there was a clear benefit from utilizing several theoretical frameworks, since they supported each other in discovering the main findings.

The results of the study show that almost all of the detailed control mechanisms included in the inter-firm MCS package were found to be in use in the studied case. This finding is new in the sense that this kind of inter-firm MCS package has not been used earlier for analyzing inter-firm relationships. It was also discovered, that it depends on whether the relationship is looked at as a whole, or only some subarea of it, how large portfolio of control and coordination mechanisms is in use. Finally, based on the finding showing that all control typologies were present simultaneously for managing the collaboration, it is suggested to extend the inter-firm MCS package constructed based on the model from Malmi and Brown (2008) by adding market control into it. This makes it more applicable in inter-firm settings.

For the reasons why all the control typologies - hierarchy, market and relationship control - were present simultaneously, the argument from Van Der Meer-Kooistra and Scapens (2008) claiming that in an inter-firm setting there may be several paradoxes that need to be managed, was supported by the findings. While the different characteristics of the subareas of the relationship were the reason for utilizing different portfolio of control mechanisms for them.

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**Keywords** buyer-supplier relationship, supplier collaboration, inter-firm relationship, coordination, control, control patterns, management control systems

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# **1. INTRODUCTION**

The business landscape has changed considerably during the recent decades due to globalization, increased complexity of technology and rapid change of the environment. This has created a pressure for the firms to become smaller and focus on their core competencies, while leveraging the skills of their suppliers and customers in the value chain. In order to survive in the presence of uncertain market environment, firms need to rely on resources and capabilities that extend beyond the firm's boundaries, as well as constantly learn and adapt their knowledge, which they do increasingly with the help of strategic alliances.

The strategic alliances have however a relatively high failure rate due to several risks that they impose to the alliance partners (Ireland, Hitt & Vaidyanath 2002), and thus there is a need to design and manage the co-operation in the alliance carefully, to enable the alliance partners both to manage the risks and to create value together. To contribute to the extant research on how alliances are and should be managed, the aim of this thesis is to study the management of a strategic buyer-supplier relationship from the buyer's point of view in order to find out: What kind of control and coordination mechanisms are used for managing it and why?

## **1.1 Research problem**

The research problem of the study consists of aiming to understand how the collaboration of a buyer and a supplier is managed and why, from the buyer's point of view, in terms of what kind of control and coordination mechanisms are used in it. Within a firm's boundaries, the coordination and control mechanisms have been studied extensively already for several decades. In the organizational research side, Ouchi's (1979) seminal work on the coordination and control mechanisms within a firm, categorized into behavior, output and clan control, are widely known and referred to, while management control has been studied in versatile ways within the management accounting discipline since Anthony's (1965) introduction of that term. In the international business literature Bartlett and Ghoshal (2002)'s flexible portfolio of coordination mechanisms for multinational firms (MNC), consisting of centralization, formalization and socialization, have been used as a basis for large number of international business studies.

Research on control and coordination mechanisms in inter-firm settings, in turn, started to emerge in 1990's when the usage of strategic alliances increased in the firms. In the strategic management literature, the research has placed biggest emphasis on the selection of the partners, while organization studies have focused more on how to control the alliance (e.g. Das & Teng 2001). In the management accounting side, the research on management control started to extend from the 'within firm' studies into inter-firm setups similarly in mid-1990's, after Otley, Broadbent and Berry (1995) and Hopwood (1996) called for a need to define a new context for studying the management control. They argued that the traditional way how the management control is defined for 'within the' firm, supports and strengthens the vertical hierarchical structure of the firm, even though the focus of the business operations in contemporary firms is more and more transferred beyond the firm's boundaries, into a large variety of relationships with other firms. Correspondingly, in the international business literature, some newer research has emerged, where the coordination mechanisms of Bartlett and Ghoshal (2002) have been studied in an inter-firm setup, e.g. by Vapola, Paukku and Gabrielsson (2010).

This thesis builds on this emerging research of control and coordination that has been conducted in inter-firm settings. Since the thesis is done within the research discipline of international business, the management of supplier collaboration is firstly analyzed with the help of the coordination mechanisms from Bartlett and Ghoshal (2002). Secondly, by introducing a cross-disciplinary component to the thesis, the management of supplier collaboration is studied and analyzed with the help of management control research frameworks, which belong to management accounting. The rationale for this second part of the analysis is that there are more extant research on the topic available within that research discipline. In the strategic management and international business research, most of the research focuses on the initial phase of the alliance, when the alliance partners are selected, but not so much on the later management of the relationship.

## **1.2 Research gap**

In international business, using Bartlett and Ghoshal's (2002) coordination mechanisms as a framework for analyzing the coordination between two firms has not received a very large attention. Vapola, Paukku and Gabrielsson (2010) have studied whether the coordination mechanisms used within the MNC affect the coordination mechanisms that the firm uses in its partner relations, and found similarities between them. There is however surprisingly few studies made on inter-firm settings with the help of coordination mechanisms from Bartlett and Ghoshal (2002), although the whole concept rely on the idea that contemporary firms are often structured in a network form. Thus a link between MNC and another firm could be actually considered as one link in the overall network of the MNC, where similar coordination mechanisms could be applicable.

The management control research in inter-organizational settings can still considered to be a relatively new research area from that point of view that it has not yet converged into unified theories. One of the limitations that also Caglio and Ditillo (2008) has raised, is that several articles study only one control method and/or one control problem at a time, which makes it difficult to create an integrative view. The limited scope of the studies may also be the reason for contradictory findings, since according to Chenhall (2003), management control systems are typically interdependent, and thus the findings from an isolated study could be actually due to some control mechanism not included into the studied variables. There are some scholars who have tried to take a more holistic approach by studying the higher level control taxonomies (Håkansson & Lind 2004; Speklé 2001; Van der Meer-Kooistra & Scapens 2008; Van der Meer-Kooistra & Vosselman 2000), but as Caglio and Ditillo (2008) have pointed out, in those studies the accounting related controls have been in a limited role. In the control taxonomy studies, the control taxonomies are typically divided into hierarchical, market and some kind of alternative patterns, where the accounting related controls are mainly addressed in the hierarchical patterns, while having a limited focus in the alternative patterns. This limitation is partly resolved by some scholars stating that according to their empirical findings all of the three patterns may exist simultaneously in the same inter-firm setting (Håkansson & Lind 2004; Van der Meer-Kooistra & Scapens 2008).



### **1.3 Research question**

As described above, alliances and partnerships with other firms are in an increasingly important role in contemporary business. Establishing a partnership with another firm, however, is not an assurance for its success, but instead alliances need to be managed continuously in an effective way in order to ensure that they generate value for the firm. To contribute to the extant research on how alliances are and should be managed, the aim of this thesis is to study the management of a buyer-supplier relationship from the buyer's point of view, in order to understand how the supplier collaboration is coordinated and controlled. Thus the research question of this study is:

*What kind of control and coordination mechanisms are used for managing a supplier collaboration and why?*

Within this research question, in order to address the described research gaps in international business and management control research, the objective is to study the control and coordination mechanisms in a holistic way, while not neglecting the analysis at the detailed level. This is accomplished by utilizing simultaneously three theoretical frameworks: two high level frameworks, the framework from Bartlett and Ghoshal (2002) and the framework of control typologies, and one detailed level framework covering a wide range of detailed control mechanisms constructed into an inter-firm MCS package, based on the model from Malmi and Brown (2008). These three theoretical frameworks are presented in more detail in the following chapter. As it will be shown in the case analysis section of this thesis, there were clear benefits from utilizing three simultaneous frameworks, since they supported each other in discovering the findings.

### **1.4 Limitations of the study**

Since the scope of this thesis is to study the supplier collaboration from the buyer's point of view, this naturally introduces a certain limitation for understanding the phenomenon holistically, since the supplier's point of view is intentionally left out from the analysis. It was however not considered possible to conduct interviews at the supplier's side, mainly because of the long distance and also because it could have introduced unwanted pressures for a change for the focal firm how to manage the collaboration. Thus not interviewing the supplier's side in this study was a conscious decision.

## **2. LITERATURE REVIEW**

### **2.1 Introduction**

The aim of this thesis is to study how in a buyer-supplier relationship the collaboration of a buyer and a supplier is managed from the buyer's perspective, in terms of what kind of control and coordination mechanisms are used for it and why. The literature review is structured to support the research question of this study. Firstly, the reasons and types of strategic alliances are reviewed from the literature, since as the contingency theory posits, the coordination and control mechanism should be designed to fit to its context (Chenhall 2003). Understanding the underlying rationales for a specific strategic alliance may help to analyze the different aspects of its coordination and control practices. Secondly, the coordination mechanisms discussed and used in international business discipline are gone through. After that, the focus in this literature review is turned to management control research, which is covered in more depth, since most of the extant research related to this topic is found from there.

Thus, thirdly a general overview of intra-firm management control research is given, in terms of its scope and definition. That will help to look at the recent research on management control in inter-organizational settings against its origins. After that, management control research in inter-organizational settings is reviewed, first from a higher level control taxonomies point of view, and then in more detail, going through different control methods that are found in inter-firm settings. The chapter ends with a section presenting the theoretical framework used in this thesis, built with the help of the contents of this chapter.

### **2.2 The reasons and types of strategic alliances**

The number of strategic alliances has increased considerably during the recent decades, due to globalization, increased complexity of technology, and rapid change of the market environment. Because of these changes, firms are increasingly focusing their efforts on their core competencies, while outsourcing and partnering in the other parts of the value chain (Gadde & Snehota 2000; Ireland, Hitt & Vaidyanath 2002; Porter 1985). Few firms can possess all the resources and capabilities that are required to compete in today's complex world (Gadde & Snehota 2000; Ireland, Hitt & Vaidyanath 2002). With the help

of strategic alliances, the firms may share the risks when entering new markets (Ireland, Hitt & Vaidyanath 2002), acquire economies of scale (Gulati, Nohria & Zaheer 2000; Ireland, Hitt & Vaidyanath 2002) or economies of scope (Gulati, Nohria & Zaheer 2000; Gupta & Polonsky 2014), acquire access to unique resources of other firms (Dyer & Singh 1998; Gupta & Polonsky 2014) or enable rapid product development (Kogut 2000), which are all prerequisites for success in the presence of globalization and rapid change of the environment. It has also been argued that in today's world it is often the alliances (Ireland, Hitt & Vaidyanath 2002) or whole networks (Doz & Hamel 1998; Möller & Rajala 2007) that compete with each other rather than the firms.

The strategic alliances can be found in various forms: research consortia, joint ventures, licensing, franchising, long-term marketing contracts, strategic buyer-supplier relationships and outsourcing (Gulati, Nohria & Zaheer 2000; Håkansson & Lind 2004; Lavie 2006; Möller & Rajala 2007). There is a large number of classifications of alliances made based on their goals, level of resource complementarity and other underlying characteristics (Möller & Rajala 2007). Doz and Hamel (1998) have described three main purposes for alliances to be: 'co-option', 'co-specialization' and 'learning and internalization'. In co-option', competitors pool their resources in order to define new standards in the markets, in co-specialization the partners combine their complementary, specialized resources to create additional value through synergy, and in learning and internalization the firms leverage the knowledge they acquire from their partners in new business areas.

Möller and Rajala (2007) have built their classification in a similar way around the value creation logic, while emphasizing the role of knowledge. The three alliance categories from Möller and Rajala (2007) are 'current business nets', 'business renewal nets' and 'emerging business nets'. The emerging business nets involve radical change and can be related to Doz and Hamel's (1998) category of co-option alliances, since they can be utilized e.g. for creating dominant technology standards. Williamson and de Meyer (2012) call this type of partnership an ecosystem. Current business nets are stable buyer-supplier networks where the main target is to improve efficiency, while business renewal nets focus on improving their offerings and processes in an incremental fashion. These last two categories can be related both to different strategy levels of buyer-supplier

relationships (Kraljic 1983) and to co-specialization alliances from Doz and Hamel (1998), which is in focus also in several other scholars' studies (Dyer & Singh 1998; Gulati, Nohria & Zaheer 2000; Lavie 2006).

Not all buyer-supplier relationships are considered strategic. Kraljic (1983) have introduced a portfolio matrix for supplier management, in which the purchased items are categorized into 'strategic', 'leverage', 'bottleneck' and 'non-critical' items, depending on the complexity of the supplier market and the strategic importance of the purchased items. In case of strategic purchase items, it is recommended to establish a cooperative relationship with the supplier. Since then, several studies have been published that have drawn upon the Kraljic's portfolio matrix (Gadde & Snehota 2000; Gelderman & Weele 2002; Olsen & Ellram 1997). According to Gadde and Snehota (2000), developing close relations with suppliers requires a lot of resources, and is worthwhile only if the benefits clearly exceed the costs. Gelderman and Weele (2002) have analyzed the possibilities and methods how a firm can move a certain supplier relationship from one portfolio category to another, in order to either reduce the risk or costs, or increase the benefits.

Even if the classifications of strategic alliances differ somewhat, there is a growing body of strategic literature considering inter-firm relationships as a key source of competitive advantage (Doz & Hamel 1998; Dyer & Singh 1998; Gulati, Nohria & Zaheer 2000; Ireland, Hitt & Vaidyanath 2002; Lavie 2006). Several scholars point out, that unique resources providing competitive advantage to the firm do not have to be owned by the firm (Dyer & Singh 1998; Gulati, Nohria & Zaheer 2000; Lavie 2006). It can provide flexibility for a firm to engage in alliances, instead of acquiring and integrating all the required capabilities in-house. The competitive advantage can be derived from the complementary resources and capabilities of the partners (Doz & Hamel 1998; Dyer & Singh 1998; Gulati, Nohria & Zaheer 2000; Ireland, Hitt & Vaidyanath 2002; Kogut 2000; Lavie 2006), through learning and knowledge sharing (Dyer & Singh 1998; Gupta & Polonsky 2014; Ireland, Hitt & Vaidyanath 2002; Kogut 2000) and from social capital, also called as 'network resources', which can be used for accessing new resources in the network faster than competitors (Gulati 1999). In order to enable the optimum leverage of resources from alliances, the firm needs to, however, have dynamic capabilities (Eisenhardt 2000).

### **2.3 Coordination mechanisms in international business research**

Bartlett and Ghoshal (2002) argue that in a highly dynamic market environment of contemporary business, there are three strategic challenges that multinational companies (MNC) have to address and solve simultaneously: global efficiency, local responsiveness and global learning. In order to be able to manage effectively these three objectives, they have described three coordinating mechanisms that can be used for different purposes and in different situations: formalization, centralization and socialization. Harzing (2000) has extended Bartlett and Ghoshal's (2002) control typologies for MNCs to include also output control. Doz and Prahalad (1987) have similarly discussed the pressures of global integration and local responsiveness, and have categorized the management tools for managing these pressures into tools for data management, manager motivation and conflict resolution.

The coordination mechanisms and processes from Bartlett and Ghoshal (2002) have, however, received probably the largest attention in the international business research, so a bit more detailed look at them is worthwhile. There are benefits and drawbacks in each coordination method. The formalization is the lowest cost solution of the three mechanisms, and enables improved operating efficiency by establishing formal policies, systems and standards, which could be e.g. certain kind of reporting systems or review meetings. On the other hand, formalization may reduce creativeness and adaptation to changing environment. Centralization is relatively easy to implement, by establishing a central unit for decision making and directing the other units. It is, however, a more costly alternative than formalization, and may lead into too intensive information flows to the centralized unit, which may eventually freeze its decision making capability. Socialization solves the problem of information overflow, by ensuring that organizational actors in different units share the same values, objectives and priorities with the organization, thus allowing the decision making to be based on these shared objectives. The drawback of socialization is that it takes a lot of time and resources to ensure the alignment of objectives and priorities, and thus it is the highest cost solution of the three coordination methods.

Bartlett and Ghoshal (2002) have pointed out that each subsidiary may have a different role in the overall organization, in terms of their capabilities and resources, which may

introduce a rationale to tailor the used coordination mechanisms to fit best to each case. The fit here means an optimal tradeoff between the effectiveness and the cost of the coordination method. If a specific unit is e.g. having more of an implementer role, then formalization as a coordination method may be recommended to reduce costs, while if the unit has a leading role in terms of capabilities and resources, then a combination of formalization and socialization might be a better approach, since it enables the unit to make decisions also autonomously and therefore more creatively.

These recommendations of differentiated coordination mechanisms have also been tested empirically. Based on their empirical studies, Ghoshal and Nohria (1989) and Nohria and Ghoshal (1994) have proposed frameworks where the combination of coordination mechanisms is fitted with environmental complexity and the amount of resources that a subsidiary possesses. If the environmental complexity is high, then the interdependency between the headquarters and the subsidiary is correspondingly high, and if local resources are high, then the headquarters is dependent on the resources of the subsidiary. Figure 1 presents the proposed framework from Ghoshal and Nohria (1989).

<b>Environmental Complexity</b>	<b>(high)</b>	<b>CLANS (C3)</b> C: Moderate F: Low S: High	<b>INTEGRATIVE (C4)</b> C: Low F: Moderate S: High
	<b>(low)</b>	<b>HIERARCHY (C1)</b> C: High F: Low S: Low	<b>FEDERATIVE (C2)</b> C: Low F: High S: Low
		<b>(low)</b>	<b>(high)</b>
		<b>Local Resources</b>	

Figure 1. Differentiated fit of coordination mechanisms (Ghoshal & Nohria 1989). Note: 'C' indicates centralization, 'F' formalization and 'S' socialization.

## **2.4 Intra-firm management control systems (MCS)**

There is a relatively large variation between scholars with regards to the definition and scope of intra-firm management control systems (MCS). One view of the definition of management control systems is that they are the mechanisms and systems that are used to implement the firm's strategy. Merchant and Van der Stede (2012, p. 6) define management control to:

“...include all the devices and systems managers use to ensure that the behaviors and decisions of their employees are consistent with the organizations' objectives and strategies. The systems themselves are commonly referred to as the management control systems.”

Further, Merchant and Van der Stede (2012) describe that there are two categories of control in organizations, strategic and management control, from which strategic control is aimed for creating new strategies and management control for executing the strategies. Some scholars include also strategic control (Simons 1995; Tessier & Otley 2012) to be part of MCS. The different views in this area can be related to the different schools in strategy management, in terms of whether strategy is considered to be something to be planned or something to be emerged (Mintzberg 1994) or as a practice (Whittington 2006). Another reason for some scholars excluding the strategic control from MCS could be that in the contingency based MCS research, strategy is viewed to be a contingent variable to MCS (Langfield-Smith 1997; Merchant and Van der Stede 2012).

Some definitions do not limit the scope of MCS to a certain specific purpose. Chenhall (2003, p. 129) describes management accounting systems (MAS) to be ‘systematic use of management accounting to achieve some goal’, while he defines management control systems (MCS) to ‘contain both MAS and other controls like personal and clan controls’. Simons (1995, p. 5) defines management control systems to be ‘formal, information-based routines and procedures managers use to maintain or alter patterns in organizational activities’.

When reviewing what kind of control types are considered to belong to management control systems, there is less variation in that area. Ouchi (1979) has created a framework for management control types, classifying them into formal controls containing behavior and output controls, and informal controls which he called clan controls. This framework is still widely used by scholars, with clan controls sometimes renamed as cultural controls

(Malmi & Brown 2008; Merchant & Van der Stede 2012), consisting of norms, shared values and beliefs. One area which divides the scholars' views is whether organization structure can be considered to be part of the management control systems. Some scholars consider it to be a contingent variable to MCS (Chenhall 2003), while others view it to be a tool or mechanism which organization can modify, thus being clearly one control method (Alvesson & Kärreman 2004; Malmi & Brown 2008).

Lately there has been a call for a more holistic approach. The findings from contingency based research indicate that management control systems should not be studied in isolation, since that could lead to biased results (Chenhall 2003; Otley 1980). Since the management control systems are interdependent, the results from an isolated study may be caused by a management control system not included to the research variables. Due to this, some scholars have suggested to create a common conceptual framework for the MCS that should be utilized in all research (Malmi & Brown 2008; Tessier & Otley 2012). Responding to this call for more holistic approach for MCS research, Malmi and Brown (2008) have created a MCS package, drawing upon research on MCS over the last thirty years. As shown in Figure 2, the suggested MCS package contains five types of management control systems: cultural, planning, cybernetic, reward and compensation and administrative controls. Grabner and Moers (2013) have additionally remarked the need of having two different terms, management control package, that contains all the management controls used in the firm, while management control system should refer to those management control methods that have been co-designed, by taking into account their mutual interdependencies.

<b>Cultural Controls</b>						
Clans		Values			Symbols	
<b>Planning</b>		<b>Cybernetic Controls</b>				<b>Reward and Compensation</b>
Long range planning	Action planning	Budgets	Financial Measurement Systems	Non Financial Measurement Systems	Hybrid Measurement Systems	
<b>Administrative Controls</b>						
Governance Structure		Organisation Structure			Policies and Procedures	

Figure 2. Management control systems as a package (Malmi & Brown 2008).



## **2.5 Inter-firm management control taxonomies**

### **2.5.1 Call for a new type of MCS research**

Following along the lines of the strategy management research, from mid-1990's onwards accounting scholars have identified the need for a context change for their research. Otley, Broadbent and Berry (1995) and Hopwood (1996) were among the first scholars who called for a new type of management accounting research that would extend beyond the firm. Otley, Broadbent and Berry (1995) stated that focusing management accounting only on operations taking place within a firm is an outdated approach. Hopwood (1996) similarly criticized the fact that accounting in firms is still focusing on vertical relationships supporting organizational hierarchy, even though the business landscape has changed considerably.

Otley, Broadbent and Berry (1995) and Hopwood (1996) both pointed out that in the presence of increased market uncertainty, firms are becoming more focused and are outsourcing their non-core operations. While doing this, the firms have to still ensure continuous learning, adaptation and flexibility. Otley, Broadbent and Berry (1995) argued that to enable this, firms need to create horizontal management control systems, including activities that cross the firm boundaries. Similarly Hopwood (1996) described that in the new set-up, processes like budgeting, planning and performance evaluation should not only include firm's internal activities, but should cover all the relevant activities, no matter whether they take place within or outside the firm.

### **2.5.2 Theories used in inter-firm research**

Before going into the review of the extant research on different control typologies, it is worthwhile to shortly describe the main theories that are underlying the research assumptions in inter-firm settings, since these may explain some of the prevailing contradictions in the control typology research. The description of the theories in this section is not trying to be inclusive list of all possible theories, but rather the aim is to cover at least those theories that provide insight needed for understanding the current findings in the control typology research.

### *Transaction cost economics (TCE)*

The majority of management control research in inter-organizational settings is conducted based on transaction cost economics theory (TCE). TCE is grounded on the theory of the firm (Coase 1937), and further developed by Williamson (1975, 1985, 1991). Williamson (1991) combined institutional economics, organization theory and contract law theory to TCE and derived key differences in coordinating and control mechanisms between the three main forms of economic organization: market, hierarchy and hybrid. He argued that in addition to minimizing the transaction costs, the adaptability to disturbances is a central problem in all economic models. Williamson (1991) claimed that the hybrid governance mode, which refers to an alliance between firms, lies between the market and hierarchy in terms of incentive intensity, adaptability to disturbances and bureaucratic costs.

Williamson (1979) described that transaction costs depend on both the transaction characteristics: asset specificity, uncertainty and frequency, and on the characteristics on the human nature: bounded rationality and opportunism. The problems related to asset specificity and opportunism have particularly been in a key role in TCE based inter-firm management control research. Asset specificity means that the investments a firm has made into a certain relationship, may have limited value in other operations or relationships. There are six different kinds of asset specificity: site specificity, physical asset specificity, human asset specificity, brand name capital, dedicated assets and temporal specificity, which may all lead to appropriation concerns, since they create interdependency between the partners (Williamson 1991). The appropriation concerns may increase the transaction costs due to the possible need to introduce safeguarding mechanisms against self-interested behavior by the partner.

### *Organization theory*

Organization theory is relatively often combined with TCE in management control research (Dekker 2003; Dekker 2004; Gulati & Singh 1998). While the main focus in TCE is to manage appropriation concerns, the aspects taken from organization theory are related to how to coordinate interdependent tasks in order to create value (Dekker 2004). Thompson (1967) classified different levels of task interdependence into three categories: pooled, sequential and reciprocal, and argued that the amount and type of coordination

depends on the category. Several scholars have referred to Thompson's categorization of interdependence levels in their research, when studying how to manage task coordination in inter-organizational setting (Das & Teng 2001; Dekker 2004; Gulati & Singh 1998). Dekker (2004) has pointed out that there can be several interdependence levels present simultaneously for different tasks, e.g. sequential for supply task and reciprocal for innovation task.

#### *Extended resource based view*

Resource based view (RBV) has been a key theory in strategic management literature in the recent decades, which is used for explaining the sources of sustainable competitive advantage for a firm. Several scholars have, however, criticized the limitations of RBV with regards to its assumption, that the resources that create the competitive advantage have to be owned and controlled by the firm (Dyer & Singh 1998; Gulati, Nohria & Zaheer 2000; Lavie 2006). In order to close this gap, Dyer and Singh (1998) formulated a relational view, defining four sources of competitive advantage that extend beyond the firm's boundaries: relation-specific investments, inter-firm knowledge-sharing routines, complementary resource endowments and effective governance. After that Lavie (2006) built an extended version of RBV by basing it on the relational view and stating that there is no requirement for the ownership or control of the resources, but only to the accessibility to the resources. Related to this same topic, some scholars have criticized TCE by focusing only on cost minimization instead of looking also at the benefits of the alliance (Ireland, Hitt & Vaidyanath 2002; Zajac & Olsen 1993). Zajac and Olsen (1993) created an approach for transactional value analysis, which contends that in order to maximize the joint value, the alliance may choose a governance structure that does not minimize the transaction costs, since the created value will exceed the costs. This approach was used as a basis by Lavie (2006), when he built the extended RBV.

#### *Industrial network approach*

The industrial network approach has been developed by Industrial Marketing and Purchasing (IMP) Group (IMP 2015) based on empirical studies. The similarity between industrial network approach and extended RBV is that the focus is rather on value creation and not so much on opportunism (Håkansson et al. 2010). Thus industrial network

approach criticizes TCE on the strong emphasis that it puts on appropriation concerns (Håkansson et al. 2010). According to Håkansson et al. (2009), the key concept of the industrial network approach is that the usual way to do business is to do it through interaction with other companies and create benefits together. Johanson and Mattson (1987) also compared industrial network approach to TCE and concluded that one key difference between them is that TCE considers governance structures to be stable, while industrial network approach views the relationships to be long-lasting and continually evolving.

### 2.5.3 Control patterns and control problems

Several scholars have categorized inter-organizational control patterns into three categories: hierarchical, market-based and some kind of an alternative pattern (Håkansson & Lind 2004; Speklé 2001; Van der Meer-Kooistra & Scapens 2008; Van der Meer-Kooistra & Vosselman 2000). From the underlying theories point of view, these studies are based on TCE and organization theory (Speklé 2001; Van der Meer-Kooistra & Vosselman 2000), industrial network approach (Håkansson & Lind 2004), or then a mixture of several theories (Van der Meer-Kooistra & Scapens 2008).

The different market-based patterns are relatively similar to each other in that they mainly rely on price and competitive bidding type of procedures (Håkansson & Lind 2004; Speklé 2001; Van der Meer-Kooistra & Vosselman 2000). The hierarchical models also share several characteristics: pre-specified criteria for partner selection (Van der Meer-Kooistra & Vosselman 2000), detailed contracts (Speklé 2001; Van der Meer-Kooistra & Vosselman 2000), detailed monitoring, rules and tight performance targets (Van der Meer-Kooistra & Scapens 2008; Van der Meer-Kooistra & Vosselman 2000) and direct coordination (Håkansson and Lind 2004).

The biggest differences can be found in the alternative control patterns. Van der Meer-Kooistra and Vosselman (2000) have focused on trust-based behavior in their framework, which is further developed by Van der Meer-Kooistra and Scapens (2008) into a relationship pattern. Håkansson and Lind (2004) emphasize coordination and cooperation with frequent interaction, and Spékle (2001) has defined exploratory and boundary control patterns, corresponding to a case with either low or high impactedness of information on the post hoc performance assessment. Exploratory control pattern relies

on performance assessment on emergent standards and participatory information sharing, while boundary control pattern focuses on defining avoided procedures and behavior.

There are also differences between the scholars' views, in what kind of situations the alternative control pattern is considered to be applicable. Van der Meer-Kooistra and Vosselman (2000) argue that the applicability of the control pattern depends on transaction characteristics, transaction environment and the characteristics of the partners. They propose that 'trust-based' pattern is applicable in situations of high interdependency and high asset specificity, high uncertainty, low measurability of activities and output, and no asymmetry in bargaining power between the alliance partners. Spékke (2001) agrees with the high uncertainty contingency variable, but views his 'exploratory control' model to be suitable for medium asset specificity, while he considers high asset specificity to require a hierarchical control pattern. Since model from Håkansson and Lind (2004) is not based on TCE theory but on industrial network approach, they do not consider asset specificity to be a context variable defining the applicability of the context for their 'business cooperation' pattern, but rather the fact that activities are complementary and dissimilar, i.e. that they require coordination and different capabilities.

There are also empirical studies conducted in order to test the validity of the proposed control pattern categories, especially in the area of the alternative models. Langfield-Smith and Smith (2003) conducted a case study of outsourcing IT operations by an electricity company, using Van der Meer-Kooistra and Vosselman's (2000) control pattern categorization as a basis, and argued that the control pattern can gradually change, since the studied outsourcing relationship in its initial phase matched quite well with the trust based pattern, while in the later stage it moved towards hierarchical control, when the relationship became more mature. Håkansson and Lind (2004) have added to this that based on their case study of an inter-organizational relationship between Ericsson and Telia, their view is that multiple control patterns, even all three of them, can exist simultaneously. Van der Meer-Kooistra and Scapens (2008) agree with their modified framework, that in the case of lateral relations, it is actually quite typical that hierarchical, relationship and market control patterns are all present simultaneously. The reason for this is that the lateral relations typically consist of paradoxes like co-operation and competition, and flexibility and standardization, for which different control patterns are needed.

Having several control patterns present simultaneously is in line with the framework created by Das and Teng (2001), who highlighted that different control types are needed for managing different types of risks: relational risk and performance risk. Relational risk is the probability that the cooperation of the alliance partners will involve appropriation of resources or distorting information (Das & Teng 1996). Performance risk, on the other hand, is inherent in all strategies, no matter whether the strategy is created for only one firm or for an inter-firm relationship. Anderson et al. (2014) have added to this that there are also compliance and regulatory risks, which refer to a case where the partner will not meet the regulatory or customer specific requirements.

Caglio and Ditillo (2008) have raised the importance of recognizing the simultaneous existence of different kinds of control problems in inter-organizational relationships, which they divide into cooperation, coordination and appropriation problems. Further, they have categorized the extant management control literature into three areas: studies on control pattern archetypes, management control methods and cost and accounting controls. They propose, as depicted in Figure 3, is that the future research would be more holistically studying the control solutions covering all these three areas, while focusing on a certain specific control problem. This would help in creating a more integrative view on the management control and possibly also reduce the amount of contradictory results.

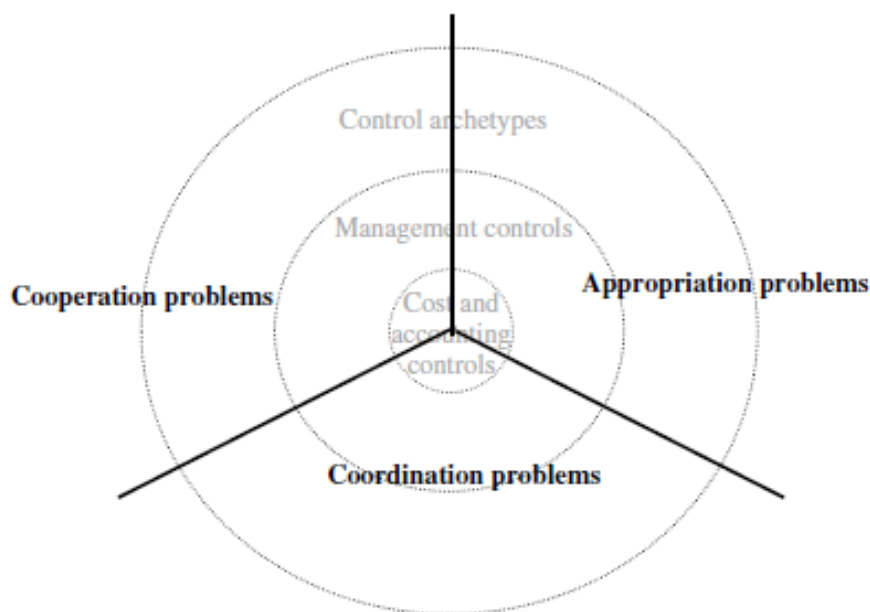


Figure 3. Combinatorial view of control solutions (Caglio & Ditillo 2008).

#### 2.5.4 Relationship of trust and control

Trust was already touched upon in the previous section, since trust-based control was representing one of the alternative control patterns. Trust or lack of trust is inherently present in all inter-organizational relationships and therefore it has been studied intensively in inter-organizational management control research. Some scholars consider trust to be one of the social control methods (Adler 2001; Dekker 2004), while others define trust to be more of a mindset (Das & Teng 2001; Tomkins 2001;). Das & Teng (2001) remark that ‘trust’ should be separated from ‘trusting behavior’ which refers to the consequences of trust. Dekker (2004) points out that trust produces self-control, which is the type of control present also in several other social controls. Despite the fact whether the trust is considered to be a control method or not, the way how scholars define trust follow along the same lines. E.g. Das and Teng (2001) use the following definition for trust: ‘positive expectations regarding the other in risky situations’.

One of the areas that has caused lot of debate among scholars, is whether trust and formal control have an inverse relationship or not, i.e. if trust is increased, can the amount of formal control be reduced, and vice versa (Adler 2001; Das & Teng 2001; Dekker 2004; Gulati & Singh 1998; Tomkins 2001). Gulati and Singh (1998) formulated a hypothesis that alliances with lower trust level are more likely to have formal controls than alliances with higher levels of trust. Tomkins (2001) disagrees with this simplistic view, and has created a conceptual model of the relationship between information needs and trust.

According to Tomkins (2001), there are two types of information that are needed in an inter-organizational relationship: type 1 information which will create and facilitate trust, and type 2 information for ‘mastery of events’, i.e. for assessing and making decisions on strategies, investments and operations. Tomkins (2001) proposes that for both types of information, there is an inverse u-shaped relationship between the increased level of information and trust, as shown in Figure 4. Thus Tomkins (2001) suggests that the relationship of trust and information, which can be considered an aspect of control, have a complex relationship, rather than simply acting as substitutes for each other.

The case studies of both Dekker (2004) and Langfield-Smith and Smith (2003) have provided evidence that trust and control are not linearly substitutable, but can support

each other. Dekker (2004) conducted a case study on management control systems in a buyer-supplier relationship involving railway safety equipment. The findings of the study were that the amount of formal control methods were reduced due to high level of trust, but there was still relatively large amount of formal controls in use. The rationale for the usage of formal controls was that it enabled better task coordination by facilitating planning and agreeing the mutual goals, and also because it created a feeling of stability in the case of uncertainty. Thus the controls clearly represented both type 1 and type 2 of information, which influence each other, as claimed by Tomkins (2001).

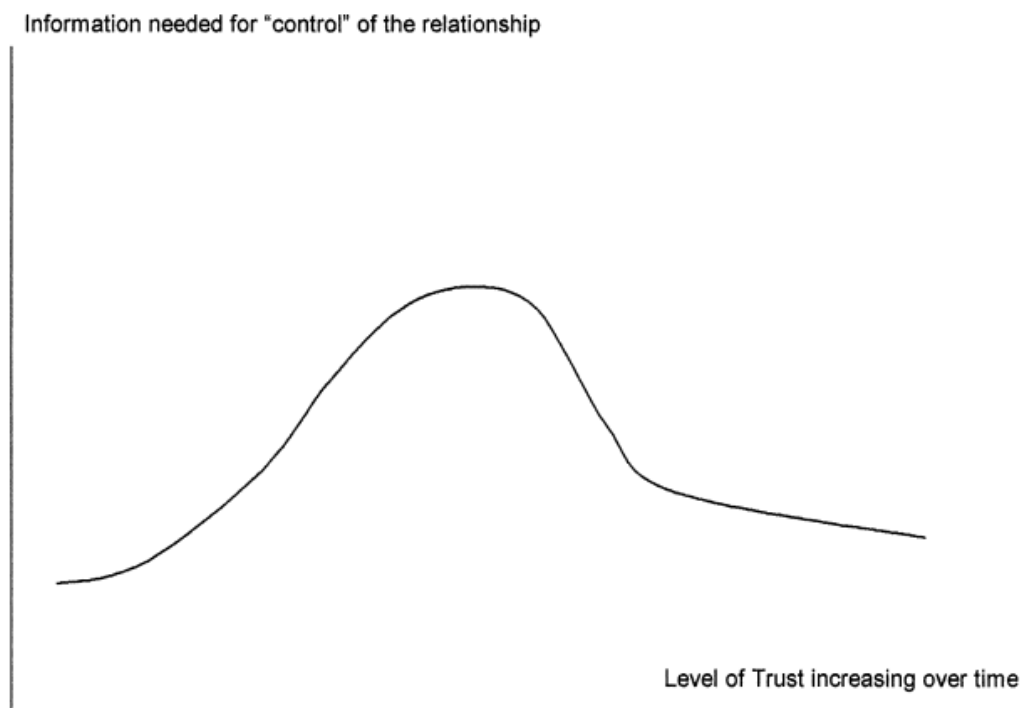


Figure 4. Inverse u-shape relationship between trust and information (Tomkins 2001).

The trust has been divided into different types of trust, each of which may serve to alleviate different type of control problems. Sako (1992) has divided trust into three types: 'contractual trust', 'competence trust' and 'goodwill trust'. Contractual trust assumes that the other party will act according to the agreement no matter whether the agreement is in the form of a written agreement or agreed orally, competence trust is related to the belief that the partner has the ability and expertise needed to perform the required tasks satisfactorily, and goodwill trust holds an expectation that the party in question takes into account the other's interest in addition to its own.



Das and Teng (2001) have created a framework integrating trust, control and risk, proposing that goodwill trust will reduce the perceived relational risk, and competence trust will reduce the perceived performance risk. Dekker (2004) and Langfield-Smith and Smith (2003) have also included goodwill trust and competence trust into their case studies, the latter of which is called capability trust in Dekker's research. The framework that Dekker (2004) used in his study assumed that capability and goodwill trust will influence the partner selection, goodwill trust will mitigate appropriation concerns, and capability trust will address the coordination requirements. These are relatively similar views to those of Das and Teng (2001). Langfield-Smith and Smith (2003) seconded that in their case study competence trust played a key role in partner selection, while goodwill trust enacted as a form of social control during the initial period of conflicting priorities.

## **2.6 Inter-firm management control system (MCS) package**

### **2.6.1 Proposal to introduce inter-firm MCS package as a framework**

Utilizing Ouchi's (1979) framework as a basis, the majority of inter-firm MCS research classifies the control types into output, behavior and social controls, where output and behavior controls are considered to be formal controls, and social controls informal controls. As it was explained in the introduction section in this thesis, most of the inter-firm MCS research, however, focuses on individual control mechanisms. In order to enable a more holistic research in this study, where all the possible control mechanisms are included, some kind of framework is needed. It was already pointed out in the intra-firm MCS section, that Malmi and Brown (2008) have created a MCS package recommended to be used in the future MCS research, even though that was aimed for studying MCS within the firm's boundaries. It is viewed that this package offers a better structure for a framework for this study, than the three control types from Ouchi (1979). And the five categories of control in the MCS package from Malmi and Brown (2008) are, actually very similar that are found in the inter-firm management control research, even though in the extant research they are studied typically one at a time.

Thus, in this section an inter-firm MCS package is constructed to be used as one of the frameworks in this study, by taking the categories from MCS package from Malmi and Brown (2008) as a basis, and analyzing what kind of studies has been made for those categories in inter-firm settings. The next sections describe the extant research for each

category. It is noted that in inter-firm research the controls called social control are here categorized under cultural controls.

### 2.6.2 Planning

Planning within an inter-organizational setting may take place through contracting (Ding, Dekker & Groot 2013), through interactive planning between the alliance partners in the course of time (Gietzmann 1996), or by using both of these methods for different purposes (Dekker 2004; Van der Meer-Kooistra & Scapens 2008). E.g. long-term plans and structure can be included into the contract, while action plans may be done through co-operative decision making (Dekker 2004; Van der Meer-Kooistra & Scapens 2008). The role of contracts has received a relatively large amount of attention in inter-organizational MCS research. The contract theory is central to the analysis of governance modes in transaction cost economics, and is also part of Williamson's (1991) framework. Hart and Moore (1990) have analyzed the concept of incomplete contracts, which posits that it is impossible to anticipate all the future contingencies. Rather, the alliance partners will need to deploy control systems for managing any changes in the contingent variables in the presence of uncertainty. Ding, Dekker and Groot (2013) found, however, in their study that if the task interdependence is high and transaction scope is broad within the alliance, the alliance partners are more likely to define detailed contracts.

Long-term planning may involve agreeing the scope of the alliance (Dekker 2004; Ireland, Hitt and Vaidyanath 2002), long-term goals and the direction of the alliance (Das and Teng, 2001; Dekker 2004; Möller & Rajala 2007) and areas where continuous improvement is to be sought and executed (Seal et al. 1999). Long-term plans are more likely to be included into the contract than short-term plans, at least based on the extant empirical studies (Coad & Cullen 2006; Dekker 2004). Short-term planning consists of agreeing the short-term goals (Dekker 2004), plans how to achieve the goals (Dekker 2004) and defining timetables for the goals (Möller & Rajala 2007). Long term goals may contain targets to create joint innovation or reduce costs, while short term goals may consist of e.g. quality plans for product or process development (Dekker 2004).

The underlying purpose of the planning can be similar to that of intra-firm case, i.e. to ensure that the co-operation brings positive results (Das and Teng 2001) and enhance

coordination (Dekker 2004). The role of planning can also differ in the inter-firm case from the intra-firm case in that it can be symbolic, thus acting as a constitutional role when alliance is in the initial stage (Seal et al. 1999; Tomkins 2001), or being a mechanism to provide stability for the alliance in the presence of uncertainty (Dekker 2004). Dekker, Sakaguchi and Kawai (2013) argue that formal, contractual planning will mitigate both performance and relational risks.

Cost control methods will be discussed more in the cybernetic and administrative controls section, since they usually involve either performance measurement or establishing specific procedures in the inter-organizational setting. In some cases, however, cost control methods can be also used for planning. Target costing is one good example, since it consists of a certain target cost that is derived from market price and the projected profit margin (Seal et al. 1999). In the study conducted by Carr and Ng (1995) on Nissan UK's supply relationships, total cost control (TCC) had clear objectives of the amount of cost reduction to be introduced on an annual basis, even though total cost control was perceived to be an incremental, continuous improvement method.

### 2.6.3 Cybernetic controls

Malmi and Brown (2008) describe that cybernetic control methods are used for measuring and comparing the output of the activity or system to the earlier set targets, and based on the identified variance, modifying the activity or system to better align it with the targets. In the MCS package created by Malmi and Brown (2008), the cybernetic controls are considered to contain items like budgets, financial and non-financial measures and hybrids like balanced scorecards.

In inter-organizational settings, the budgets may consist of purchasing budgets that are used together with target costing (Mouritsen, Hansen & Hansen 2001) or budgets defined for innovations or agreed improvement areas (Dekker 2004). Not many inter-organizational studies actually mention budgets to be part of inter-firm MCS. Anderson and Dekker (2009b) have pointed out that even though there are several studies made on performance measurements, the feedback methods, typically consisting of budgets and similar plans in intra-firm case, are still an area much less researched in alliances.

Financial performance measurements in inter-firm case may be conducted in the form of financial scorecard, containing issues like market size, gross margin and contribution of a certain product to total profits (Free 2008). Cost control methods, which are discussed in more detail in the administrative controls, can also be considered to belong to financial performance measurements, since they measure either supplier's costs (Ellram 1996; Kajüter & Kulmala 2005), the joint costs of a product design in the alliance (Cooper & Slagmulder 2004) or the costs of the whole value chain (Dekker 2003).

Non-financial performance measurements may consist of business performance indicators (BPI) or operational scorecard, which can contain items like delivery time, forecasting accuracy, invoice accuracy, responsiveness to technology issues, and documentation quality (Chua & Mahama 2007; Free 2008). They can be also more generally assessing whether certain improvement programs are meeting the agreed performance targets and timetables (Dekker 2004; Seal et al. 1999).

Anderson and Dekker (2009b) have remarked that even though hybrid performance measurements, like balanced scorecard from Kaplan and Norton (1996), have not yet been found to be used in many inter-firm relationships, they could very well be suited also in that kind of settings. One method which in a way fits into the category of hybrid performance measurements is the combination of target costing and functional analysis, since that typically consist of both a cost component as a target and a list of baseline functionality or performance criteria that need to be met (Mouritsen, Hansen & Hansen 2001). Ellram (1996) has also emphasized that cost control methods should always be combined with other performance targets like quality, delivery characteristics and service orientation.

Das and Teng (2001) claimed that among the formal control types, output control should be emphasized in the alliances instead of behavior controls, since it is usually quite difficult to define the exact behaviors for an inter-firm relationship. On the other hand, it has been questioned whether the performance measurement should actually be targeted to measure only one party or the whole alliance (Das & Teng 2001; Kraus & Lind 2007). This may depend on the type of task interdependence (Thompson 1967), whether it is pooled, serial or reciprocal, and also on the power difference. There is evidence of cases where alliance partners have together defined the performance criteria (Dekker 2004),

and also on cases where the dominant buyer has defined the targets for the suppliers (Free 2008). Mahama (2006) found in his study that using common performance measurement within an alliance contributes positively to co-operation, since it enhances information sharing, problem solving and willingness to adapt to changes. Similarly, Anderson et al. (2014) have stated that cybernetic control methods will mitigate performance risk in the alliance by facilitating coordination in the form of performance targets and their evaluation.

#### 2.6.4 Reward and compensation

One of the most important areas for reward and compensation in inter-firm relationships is to ensure a fair sharing of the benefits and an agreement how to handle intellectual property rights (Möller & Rajala 2007; Seal et al. 1999). Especially in alliances with reciprocal task interdependency, one method that helps sharing the returns fairly is to use open book accounting (Dekker 2003; Free 2008; Kajüter & Kulmala 2005). The fair share of the benefits promised to the suppliers can be even considered as a pre-requisite, before the suppliers are willing to open their books (Kajüter & Kulmala 2005). One method how to handle the intellectual property rights is to agree in advance that innovating party can own the rights, as long as the other party will be provided a license for it (Dekker 2004).

An agreement to have a fair benefit sharing is often included in the contract (Dekker 2003; Gietzmann 1996), while the detailed method how to do it may be defined later separately for each case, as described by Dekker (2004) in the value chain analysis done by Sainsbury. If an improvement project involved a bigger investment, Sainsbury might have taken care of that, or alternatively, Sainsbury might have agreed to increase the price for the products paid for the supplier after the investment. In Japanese buyer-supplier relationships studied by Gietzmann (1996), the buyer committed to one year period, during which the supplier would benefit from any cost reductions it was able to introduce. The drawback of this kind of claw-back procedure from the supplier's point of view is, however, that the buyer might later communicate the identified cost reduction method to its other suppliers.

There is usually a need for also other kinds of rewarding and compensation than splitting the mutually generated benefits, especially in alliances which represent a sequential type

of task interdependency. The rewards may be based on either financial or non-financial performance or complying with the norms (Dyer & Singh 1998). Reward and compensation in buyer-supplier relationships is often based on ranking the suppliers based on their performance, where the reward could be linked to the supplier's current ranking (Cooper & Slagmulder 2004; Gietzmann 1996;). Cooper and Slagmulder (2004) conducted a case study in three different Japanese supply chains and found four categories of suppliers, 'family member', 'major supplier', 'subcontractor' and 'common supplier', for each of which the rewarding mechanism was different. Family members enjoyed mutual benefit from close collaboration, major suppliers were able to earn higher volumes with improved performance, and subcontractors would be awarded with a continued relationship. Common suppliers would not get any other rewards than agreeing the deals with them occasionally.

There might be also more innovative kind of reward and compensation introduced. Dekker (2004) described how the benefits created in the alliance were allocated to an alliance fund, which was used for financing all the future innovations.

The purpose of reward or compensation may be motivation to improve performance (Gietzmann 1996), encouraging transparency and reciprocal behavior (Dyer & Singh 1998) or reducing appropriation concerns and relational risk by aligning the partners' interests and agreeing the sharing of the benefits (Anderson et al. 2014; Dekker 2004). Some of these incentive targets create further opportunities, e.g. transparency and reciprocal behavior may improve learning in the alliance (Dyer & Singh 1998).

#### 2.6.5 Administrative controls

Malmi and Brown (2008) describe the administrative control systems to consist of organization and structure, formal procedures and policies and related monitoring systems, which define and guide the behavior of the employees. In the case of inter-organizational settings, it is good to point out that some of the procedural controls in the extant literature are categorized into social controls, since their main function is to facilitate trust and create a mutually positive culture and values for the inter-organizational relationship. Those are discussed in the social control section below.

It is quite rare that there would be a separate organizational structure introduced within an alliance, except in joint ventures and ecosystems (Das & Teng 2001; Williamson & de Meyer 2012). There are, however, some cases where separate organizational structures have proved to be successful even in buyer-supplier relationships. Dekker (2004) found in his case study of a buyer-supplier relationship of railway safety equipment, that there were several organizational structures established specifically for the alliance: e.g. alliance board, which defined the strategy for the alliance and managed its operations, and program of innovation, which managed the innovation pipeline. Dyer and Singh (1998) have highlighted that an effective governance system is a source of competitive advantage, and thus alliance partners need to have decision processes adapted to each other. So if there is not a separate organization structure established for handling the decision making, it needs to be properly designed into the processes. It seems, however, that in many alliances the decision making processes are considered to belong to social controls, since it is for the benefit of the relationship to handle the decision making in a trust-building manner (Das & Teng 2001; Dekker 2004).

Other administrative control methods closely related to organization structure may consist of defining decision rights and overall responsibilities (Anderson et al. 2014). One alternative to introducing a separate organization structure is to define overlapping accountabilities (Håkansson & Lind 2004). In their study of the relationship between Telia and Ericsson, Håkansson and Lind (2004) found that Ericsson's Telia key accounting management unit had some of Telia's goals as their own performance targets. Overlapping accountabilities have been suggested also by Simons (2005) as an organizational control method, who posited that they increase the commitment between parties, and thus encourage providing more information to the other party.

The formal procedures and policies may consist of open book accounting (OBA) (Free 2008; Kajüter & Kulmala 2005; Mouritsen, Hansen & Hansen 2001; Seal et al. 1999) cost control methods (Carr & Ng 1995; Cooper & Slagmulder 2004; Ellram 1996), value chain analysis (Anderson & Dekker 2009a; Dekker 2003; Shank & Govindarajan 1993), quality auditing and periodic progress reviews (Anderson 2014; Dekker 2004) and methods for managing failure (Anderson 2014). Möller and Rajala (2007) add that especially in the

alliances which aim for incremental improvement, there needs to be routines and processes that enable creative collaboration.

There is a large variety of cost control methods studied in inter-organizational settings. Ellram (1996) created a structured method, based on Kraljic's (1983) portfolio matrix, for assessing which cost management tools are the most applicable in different kind of alliances. Ellram (1996) recommended more complex cost management tools only for the strategic supplier relationships, for which there are several studies already existing in inter-firm relationships: OBA (Free 2008; Kajüter & Kulmala 2005; Mouritsen, Hansen & Hansen 2001; Seal et al. 1999;), target costing (Cooper & Slagmulder 2004; Seal et al. 1999), total cost control (TCC) or total cost of ownerships (TCO) analysis (Carr & Ng 1995), and TCO analysis of supply chain, also called value chain analysis (Anderson & Dekker 2009a; Coad & Cullen 2006; Dekker 2003; Shank & Govindarajan 1993). The collaborative cost control methods are often generally called as inter-organizational cost management (IOCM) (Cooper & Slagmulder 2004; Fayard et al. 2012).

Open book accounting (OBA) is often coupled with some other cost accounting technique like target costing or value chain analysis (Dekker 2003; Free 2008; Kajüter & Kulmala 2005; Mouritsen, Hansen & Hansen 2001; Seal et al. 1999). The successfulness of using OBA varies a lot. Some of the main reasons for failure of introducing OBA according to Kajüter and Kulmala (2005) are, that suppliers do not either see any benefit of it, if the alliance returns are not shared in a fair manner, or that suppliers do not simply have adequate cost accounting systems to enable it.

The most holistic method is to analyze all the value chain activities simultaneously, as suggested by Porter (1985), and the idea further developed by Shank and Govindarajan (1993). VCA enables insights on profit share across the whole value chain and can thus be utilized to identify in which areas of the value chain there are opportunities for cost reductions or value creation (Shank & Govindarajan 1993). The usage of VCA may be seen as a structural cost management method (Anderson & Dekker 2009a), leading to bigger strategic changes as shown in the study by Coad and Cullen (2006) where School Trends made decisions on outsourcing based on VCA. On the other hand, VCA can be also utilized as an executional cost management method, where incremental improvements are made into existing processes (Anderson & Dekker 2009b).



### 2.6.6 Cultural controls

Malmi and Brown (2008) describe that organizational values, beliefs and social norms represent cultural controls in intra-firm MCS, since they institutionalize certain behaviors. Simons (1995) has also included the idea of belief systems in his framework of controls targeted to intra-firm situation, which may consist of organization's values and mission statements. In inter-firm settings, mission statements could be in theory found from the contracts or frame agreements, when the alliance is initially established. Creating explicit values and mission statements are, however, likely to be rather rare in non-equity alliances, since they could create confusion, if differing considerably from the intra-firm values and missions. The values and culture for inter-organizational relationships are thus likely to be developed in more implicit way.

Cultural controls are, however, said to be highly important for inter-organizational relationships where the task programmability and/or outcome measurability is often low (Das & Teng 2001; Van der Meer-Kooistra & Vosselman 2000), in which case it may be difficult to introduce output or behavior controls. The most often mentioned cultural control methods in inter-firm MCS studies are participatory decision making (Das & Teng 2001; Dekker 2004), establishing mutual interests and creating an expectation of mutual reciprocity (Das & Teng 2001; Zajac & Olsen 1993) and joint dispute resolution (Das & Teng 2001; Zajac & Olsen 1993). These methods both enhance trust and ensure that the alliance parties understand each other's motives. And as it was discussed already in the previous section, trust itself can be considered as one form of cultural control (Adler 2001; Dekker 2004). Other possible cultural control methods are rituals, ceremonies and general networking (Das & Teng 2001) and coordinated collaboration (Möller & Rajala 2007).

Increasing communication channels through several functions has been mentioned as one way to support a positive, cooperative culture (Seal et al 1999). This is exemplified in several cases studying inter-organizational cost management (IOCM) methods (Carr & Ng 1995; Cooper & Slagmulder 2004), where cross-functional teams typically meet frequently in order to exchange information and discuss problems together.

Certain tools are also beneficial for enabling interactive discussions and participatory decision making processes. Open-book accounting, which was already discussed in the

previous section, is a good example, since it increases transparency of information, and encourages discussion between the partners (Mouritsen, Hansen & Hansen 2001). Internet based tools are also considered useful for enhancing collaboration between several partners in different locations (Dekker 2003).

## 2.7 Theoretical frame of reference

After going through the extant research for the topic area of this thesis, the theoretical framework for the study can be formulated. As described already in the introduction section, the aim of this thesis is to study how in a buyer-supplier relationship the collaboration of a buyer and a supplier is managed from the buyer's perspective, in terms of what kind of control and coordination mechanisms are used for it and why. Thus the research question for this thesis is: *“What kind of control and coordination mechanisms are used for managing a supplier collaboration and why?”* The answer to this question will be sought by utilizing the theoretical framework depicted in Figure 5, built with the help of the literature review. The overall theoretical framework thus consists of three frameworks: two high level frameworks; the coordination mechanisms from Bartlett and Ghoshal (2002) and the higher level control taxonomies, and one detailed framework; the inter-firm MCS package constructed based on Malmi & Brown (2008). The inclusion of both high level and detailed frameworks into the overall theoretical framework aims to provide a holistic view of the control and coordination patterns, while not neglecting the analysis of what kind of detailed control mechanisms are in use.

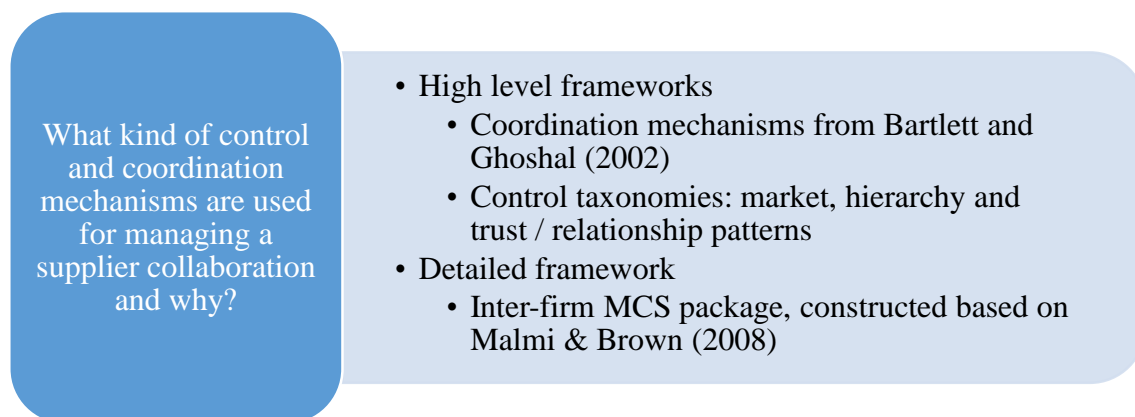


Figure 5. Theoretical framework of the study.

### **3. METHODOLOGY**

In this section, the research methodology for this study and the rationale for its selection are described. First, the rationale for choosing a single qualitative case study as a research method is explained and justified, after which the research context is described. Then, the data sample and collection is presented, after which the methods for analyzing and interpreting the data are gone through. Finally, the validity and reliability of the study are evaluated.

#### **3.1 Research strategy**

The research method used for this study is a qualitative case study. Eisenhardt (1989) states that case study can be used for gaining understanding of a certain phenomenon or setting to either to describe the phenomenon, test or generate theory. Yin (2003) posits that a case study enables the researcher to obtain a holistic view of the studied phenomenon, the argument of which suits well to this study, since the aim is to study the coordination and control mechanisms utilized in the supplier collaboration holistically, rather than focusing only on one method. According to Vaivio (2008), the superiority of qualitative studies is that they enable the researchers to go beyond the functionalist view, which assumes that decision making is purely rational within firms, and also deeper than economics view, which looks at firms through universal laws trying formulate general predictions of occurrences. Qualitative case studies aim for understanding a firm's operations in its specific context (Scapens 1990; Yin 2003), rather than trying to generalize the findings to all firms. Qualitative case studies thus focus on explaining phenomena instead of trying to predict them (Scapens 1990; Yin 2003). According to Yin (2003), case study research suits very well to a situation where the aim is to explain a complex phenomenon in its real-life context, especially when the boundaries of the phenomenon and the context are not fully clear. This argument is very valid for coordination and control mechanisms, which represent phenomena that both shape and are shaped by their context.

The emphasis of explaining the phenomena is especially important in a study on coordination and control mechanisms in inter-organizational settings, since this research area is still so new, that the theories on it are still relatively fragmented, and in some cases

even contradictory. Thus e.g. a survey would be rather difficult to conduct with any meaningful results. There are, however, some theories already existing that can be used as a basis for this study as presented in the literature review section, and for this reason the research method is selected to be an explanatory case study. As Scapens (1990) and Yin (2003) argue, explanatory case study suits in a situation where the extant literature already provides some conceptual frameworks and theories, which the research questions and objectives can be based on and the findings compared to. The aim of the explanatory case study is thus to analyze whether the extant theories apply to the empirical findings of the study, or whether the theories need revisions or extensions in some aspects (Scapens 1990; Yin 2003). Furthermore, Ahrens and Chapman (2006) have pointed out that there is always more evidence existing in the research domain than what the researcher is able to capture with his methodologies, and thus there is a need to frame the study with a help of a theory that gives some focus for the study. On the other hand it is good to point out, as Yin (2003) highlights, that there may be large overlaps between different case study strategies, and therefore an explanatory case study may contain some features of exploratory research, e.g. in the form of ‘what’ questions, which is also the case in this study.

The research in this thesis will consist of a single case study. There are different views among scholars, on how many case studies are sufficient to reach valid conclusions. Eisenhardt (1989) has the view that the study should contain 4 to 10 cases in order to ensure that the empirical evidence is sufficiently convincing to support the findings, while Siggelkow (2007) and Yin (2003) posit that also one case study may be sufficient. On the other hand, Eisenhardt and Graebner (2007) admit, that single case studies may enable to generate theories containing more details than multiple cases, since in multiple cases only those issues that can be found in the majority of the cases are typically included to the theory. Siggelkow (2007) argues that the rich data, obtained and collected from a single case, can greatly contribute to theory generation, especially if the extant theory is still relatively limited.

Yin (2003) describes that there are specific rationales for conducting a single case study, e.g. a critical case, a unique case and a typical case. The choice for this research is to conduct a study that is partly typical, partly unique. In most parts, the context of this study

represents a typical case of a buyer-supplier relationship between a large multinational company as a buyer, and its supplier located in China. There are, however, some characteristics present in the context which may not be considered to represent the most typical case, since there are several categories of products sourced from the same supplier. Within Finnish MNC this was mentioned to be a rare case in their supplier portfolio. On the other hand, there is probably no one generic context even existing for a buyer-supplier relationship, since each context is often unique in some way. Therefore the overall target of this study follows along the lines of a typical case study, and thus the aim is to study the phenomenon, in order to contribute to the theory generation in a general sense.

### **3.2 Research context**

The research context of this study represents quite a typical case of a contemporary business world during the era of globalization, since western companies increasingly outsource their manufacturing into geographical areas where cheap labor is available. The research context of this study consists of a buyer-supplier relationship between a large Finnish multinational company (MNC) that sells consumer products globally, and one of its Chinese suppliers that manufactures finished products for it. The Finnish MNC both manufactures itself and outsources certain portion of manufacturing of its products, for which purpose it has suppliers in several geographical locations globally. The studied Chinese supplier has also other customers in addition to the Finnish MNC. The relationship between the two studied companies has lasted already for ten years.

The names of both companies are kept anonymous. The acronyms used in this study are FinBu, *Finnish Buyer*, for the Finnish MNC, and ChiSu for the *Chinese Supplier*. FinBu has business units both in Finland and US, while the employees who collaborate with ChiSu are based in Finland, US and China. ChiSu has operations only in China.

### **3.3 Data sample and collection**

There were two sources for the empirical data. The primary source was interviews, while additionally, as a secondary source, company documentation, articles from business magazines and websites were analyzed, in order to allow data triangulation. According to Yin (2003), data triangulation enhances the construct validity of the study. The obtained company documentation was received one week after all of the interviews were

completed, and it showed the status of ChiSu within FinBu's supplier portfolio, as well as the amount of FinBu's spend for different suppliers in selected material areas. For confidentiality reasons the detailed data from this document cannot be shared in this thesis. The main benefit from this company documentation was that it validated the data found from the interviews that the status of ChiSu was moving from 'approved' to 'exit' for one material area, as is discussed in the case analysis section. The articles from business magazines, in turn, provided validation of the data found in the interviews, that market requirements differ between different global regions, due to which the product quality requirements are also different, which need to be then handled accordingly in the supplier collaboration. The website of the company highlighted the company's commitment to social and environmental responsibility, which validated the importance of certain audit procedures that are discussed in more detail in the case analysis section.

The primary data was obtained by holding 11 interviews at the FinBu. Since the qualitative studies do not aim for statistical generalization (Scapens 1990; Yin 2003), there is no strict rule of thumb, how many interviews are sufficient for drawing conclusions from the research. In order to, however, ensure rich data from the interviews, several different roles were included into the group of the interviewees, as well as people from different sites: Finland, US and in China. According to Eisenhardt and Graebner (2007), ensuring that there are interviewees from different functions will also reduce bias in the results. The first interview was held with Vice President, Global Sourcing, during which the overall set-up in the collaboration between FinBu and ChiSu was gone through, as well as the roles and activities involved in the collaboration. After this first interview, 10 semi-structured interviews were held with the rest of the interviewees. The names and contact to these 10 interviewees was provided and organized by the first interviewee, Vice President, Global Sourcing. The first interview was held on 7<sup>th</sup> November, 2014, while the rest of the 10 interviews were held one month after that within a one-week period, from 8<sup>th</sup> to 16<sup>th</sup> December. The interview themes for these 10 interviews are presented in the appendix. A semi-structured interview means that the themes are defined beforehand, but their ordering and exact wording may differ from interview to interview (Eriksson and Kovalainen 2008). Furthermore, Eriksson and Kovalainen (2008) posit, that even though qualitative tradition enables to conduct interviews in rather open manner, it is, however, suggested to define some questions beforehand.

The roles and sites of the interviewees, as well as the dates and durations of the interviews are presented in Table 1. All the interviews were recorded and transcribed. The duration of the interviews varied between 26-70 minutes, and altogether the interviews lasted 9 hours 52 minutes. The interviews with people from Finland were done through face-to-face meetings, while the interviews with people based in US and China were conducted through telephone meetings, except with Quality and Sustainability Manager, who happened to be visiting in Finland at that day and thus the interview with her was able to be conducted in face-to-face.

<b>Interviewee role</b>	<b>Date of the interview</b>	<b>Interview duration</b>	<b>Location where based</b>
Vice President, Global Sourcing	7 <sup>th</sup> Nov, 2014	70 min	Finland
Controller, Global Supply Chain	8 <sup>th</sup> Dec, 2014	45 min	Finland
Material Area Manager	16 <sup>th</sup> Dec, 2014	58 min	US
Material Area Manager	8 <sup>th</sup> Dec, 2014	53 min	Finland
Material Area Manager	9 <sup>th</sup> Dec, 2014	69 min	US
Material Area Specialist	9 <sup>th</sup> Dec, 2014	70 min	Finland
NPD Project Manager	9 <sup>th</sup> Dec, 2014	54 min	Finland
Product and Marketing Manager	8 <sup>th</sup> Dec, 2014	39 min	Finland
Quality and Sustainability Manager	16 <sup>th</sup> Dec, 2014	26 min	China
Sourcing Manager	16 <sup>th</sup> Dec, 2014	49 min	China
Supply Chain Manager	8 <sup>th</sup> Dec, 2014	59 min	Finland

Table 1. List of the interviewees.

On the language selection, Welch and Piekkari (2006) posit that the usage of foreign language may reduce the accuracy of the data obtained in the interviews, and for this reason the native language of the interviewee was used in the majority of the interviews. The only exceptions were the two Chinese interviewees, NPD Project Manager and Sourcing Manager, with whom the language was selected to be English, since in those cases that was the only common language between the interviewer and interviewee. Welch and Piekkari (2006) argue that if the interviewees have to use a foreign language, it may lead them to repeat the company policies instead of providing their answers with rich examples, and therefore it is recommended to ask several clarifying questions. This advice was used accordingly, when a foreign language was used with the interviewees.

### **3.4 Data analysis and interpretation**

After the data collection was completed, the data analysis was done according to the guidelines from Eisenhardt's (1989) process of building theory from case study research. In the first step, the target was to increase familiarity with the data, in order to formulate first ideas and insights for the analysis and theory generation, after which it was possible to list down preliminary themes, concepts and relationships between variables. Then in the second step, as Eisenhardt (1989) also describes, the preliminary conceptual framing was used as a reference to which evidence from the collected data was compared in an iterative manner. Yin (2003) has described five different analysis techniques for case studies: pattern matching, explanation building, time-series analysis, logic models and cross-case synthesis, from which the technique of explanation building is very similar to the analysis method described above from Eisenhardt (1989). The process of explanation building, according to Yin (2003) is an iterative process going back and forth between defining a theoretical proposition and comparing that to the evidence, and again refining the proposition etc. Thus the analysis technique that I used in this research was adopted from both Eisenhardt (1989) and Yin (2003).

Scapens (1990) has also highlighted that in the holistic research, typical to qualitative case studies, there is a two-way interaction between theory and empirical observations. On one hand, theory is used for explaining the empirical data, but on the other hand, the empirical data is used for refining and modifying the theory, when the theory does not explain it. This kind of two-way interaction was very much present also in this study.

### **3.5 Validity and reliability of the study**

According to Yin (2003), there are four tests that can be used to analyze a case study's quality: tests for construct validity, internal validity, external validity and reliability. The construct validity concerns whether the study has utilized correct operational measures, and this can be enhanced by using several sources of evidence (Yin 2003). In this study, the amount of evidence was increased by utilizing both interviews and documentary data as sources. This enabled data triangulation, enhancing the construct validity of the study.

Internal validity means that there are no misconceptions of the causal relationships in the study. Internal validity can be improved by methods like pattern matching, explanation



building and addressing rival explanations (Yin 2003). As it was already explained above, the technique for enhancing internal validity that was used in this study was explanation building (Eisenhardt 1989; Yin 2003). After the first step was somewhat converged, then in order to further enhance internal validity, the newly generated theory from the first step was compared with some similar and conflicting theories in the literature, as Eisenhardt (1989) suggests. That allowed to create better construct definitions.

External validity has to do with defining the context domain within which the findings can be generalized beyond the existing theory (Yin 2003). As Scapens (1990) and Yin (2003) have described, this is called analytical generalization, which is different from statistical generalization. The aim of analytical generalization is to link the empirical findings to an existing theory, while statistical generalization tries to make predictions on a large number of populations on a statistical sense (Yin 2003). Ahrens and Chapman (2006) point out that analytical generalization is recommended to be the aim for any research, since that will make the study interesting for a larger number of scholars. However, since this research consisted only of a single case study, my view is that it is not possible to make any generalizations of the study even in analytical sense. Instead, this study can be considered to contribute to the extant research by creating hypotheses, which could then be tested with a more extensive study in the future.

Finally, the reliability refers to the fact that the study is conducted, and the process and the data are described in a manner, that some other scholar could repeat it and get the same results (Yin 2003). The data collection procedures of this study are described in detail in the sections above, and to further enhance the reliability, the interview themes can be also found from the appendix.

## 4. CASE ANALYSIS

In this chapter the empirical data obtained from the interviews is presented and analyzed. The chapter is structured so that first the context of the collaboration is evaluated, after which the control and coordination mechanisms that are utilized in the supplier collaboration, from the buyer's perspective, are analyzed with the help of the three theoretical frameworks described in the literature review section. Analyzing first the context serves as a beneficial background info for analyzing the utilized coordination and control mechanisms. Furthermore, the two high level theoretical frameworks for control and coordination mechanisms contain several context variables that are assumed to affect what kind of control mechanisms are used in an inter-organizational setting, so this analysis serves to clarify also these context variables.

The analysis of the context starts by analyzing the business relationship between the Finnish MNC (FinBu) and Chinese Supplier (ChiSu) in terms of the purpose and the characteristics of the relationship. Secondly, the main organizational actors and activities involved in the collaboration are described both at FinBu and ChiSu side, in order to allow a deeper understanding who, in terms of their roles and activities, are participating in managing and controlling the collaboration. Thirdly, the views from the interviewees are provided on how well they think the collaboration is working, since this may give further insight why certain selected control and coordination mechanisms are in use. Finally, it is assessed whether there are any explicit areas for which the collaboration is found to be managed in a different way from US and Finland, since this will affect how the interview data should be collated for analyzing the control and coordination mechanisms.

After the context is evaluated, the control and coordination mechanisms are analyzed with the help of the three theoretical frameworks. Firstly, the control and coordination mechanisms are analyzed with two high level frameworks: the framework from Bartlett and Ghoshal (2002) and the framework of control typologies. After that the control and coordination mechanisms are analyzed with the detailed level framework covering a wide range of detailed control mechanisms constructed into an inter-firm MCS package, based on the model from Malmi and Brown (2008). As it will be shown in the analysis there was a clear benefit from utilizing three theoretical frameworks, since they supported each other discovering the key findings.

## **4.1 Data and analysis of the context**

### **4.1.1 Business relationship of the studied buyer and supplier**

#### *Scope of the business relationship*

FinBu has several material areas, which could also be called product categories for sourcing. This is since the material areas are hybrids between functionality and material with regards to final products, geared somewhat more towards functionality. In the partnership with ChiSu, FinBu sources final products from three of its material areas, MA1, MA2 and MA3, from this supplier. Out of the three material areas, MA1 represents the biggest spend towards ChiSu, representing 30% of ChiSu's whole business. ChiSu, in turn, is the largest external manufacturer for FinBu in MA1 material area. Thus for both partners, the relationship is relatively important business wise. As Material Area Manager for MA1 put it: 'So most clearly they depend on us from financial standpoint...They have a clear interest that our products are going to succeed.'

#### *Evolution of the relationship*

The partnership between FinBu and ChiSu has lasted already ten years. It started in 2005, when FinBu's US business unit ceased its own manufacturing of MA1 products in US, and transferred its manufacturing equipment to ChiSu. The collaboration was further extended in 2006, when FinBu's Finland based business unit transferred manufacturing of MA2 products from its own China factories to ChiSu. At that time FinBu was striving for improved quality in MA2 products, and since ChiSu offered good quality with reasonable price, the transfer was decided to be made. After that, MA3 from FinBu's US business unit was still added as a third material area sourced from this same supplier. The rationale for this decision was basically that ChiSu was already considered an established supplier. From 2008 onwards FinBu started new product development (NPD) with ChiSu, which was the first time FinBu conducted NPD with any external party.

Current situation is that FinBu has defined certain suppliers to be its strategic partners, with whom it wants to tighten the collaboration. ChiSu is categorized as a strategic supplier for MA1 products, while non-strategic for MA2 and MA3. For MA2 there has not been new product development with ChiSu for recent years, due to several problems with them, and by the end of the year, when the interviews took place, the sourcing for

MA2 was actually going to be discontinued from ChiSu. Also MA3 material area was considering to take some business away from ChiSu in the future. For this topic also secondary data was obtained, a company internal documentation, which showed the plan to move ChiSu to 'exit' status for MA2 material area.

#### *Purpose of the relationship*

The purpose of the relationship varies between the material areas. MA1 is the only material area where the purpose of the relationship consists of both co-specialization and learning and internalization, by using the classification from Doz & Hamel (1998), while for the other two material areas, MA2 and MA3, it involves only co-specialization. For MA1, FinBu receives strategic knowledge from ChiSu in the form of competitive intelligence on the local market landscape – new products soon to be launched by FinBu's competitors, or new materials or technologies being used in the market. Material Area Manager for MA1 elaborated this as follows:

“They are a value partner...They will provide information back to us if there's a competitor coming with a new product to be launched. Or if they know there's a new technology being used, new material being used. So they feed that information back to FinBu as well.”

For MA2 and MA3 material areas, the cooperation with ChiSu has been a traditional buyer-supplier relationship, without any specific learning aspect. Material Area Manager for MA2 described this: 'It is one among several hundred firms that manufactures MA2 products. Thus there is nothing remarkable [in ChiSu's capabilities]. Thus we have just purchased services from them.' Material Area Specialist responsible for MA1 and MA3 similarly commented:

“I don't think there is any kind of bigger, like a bigger thing behind it. Probably it has just been that kind of [supplier] that is big, meaning that it has been found easily.”

Obviously, these comments reflect also the fact that ChiSu is considered a strategic supplier only in MA1 material area.

#### *Level of task interdependency*

The task interdependency, in terms of how much information needs to be exchanged during the collaboration, in order for each partner to be able to complete their tasks, depends on whether new product development (NPD) is involved or not. NPD projects represent reciprocal task interdependency (Thompson 1967), since during that a lot of

information has to be exchanged in order to agree the product specifications and ensure the manufacturability of the product. Material Area Manager for MA1 elaborated this as follows:

“When it comes to product development, the interdependency is fairly high... We are no longer a manufacturing expert... So we are dependent on them to get our design, and analyze whether it is actually manufacturable in the way we design it.”

The sourcing related to production of existing products, on the other hand, represents sequential task interdependency (Thompson 1967). Naturally there is collaboration also related to that, through quality improvement and other projects, but those will not create a specific dependency for the supplier, which would block them from proceeding with their tasks of manufacturing the agreed deliveries. This finding is in line with the argument from Dekker (2004), that the level of task interdependency may be different for different tasks. Product and Marketing Manager described this:

“I would divide this into two areas. We have normal manufacturing and then we have new product development. And in new product development we have very close collaboration with the supplier, and then we need information from them so that we can decide the next issue and after that they again need input from us. But if we talk about the basic manufacturing... then I would say it is more this other type [sequential] meaning that then there is not so much need to share information.”

#### *Level of complexity and change*

The level of complexity and change depends similarly on whether the collaboration is related to managing mature products or new product development (NPD). For the mature products, which have been already for some time in the production, both the complexity of the collaboration and the amount of change are considered to be low. For the NPD the level of change is medium, since some input typically needs to be taken from the supplier for the product plans. NPD Project Manager explained: ‘After beginning we allow changes. Then after certain phases when the tools are defined there are no more changes.’ The complexity of collaboration, on the other hand, can be considered to be high for NPD. The high level of complexity is inherent in NPD, since it involves so many different things that needs to be managed and planned together with the supplier. Furthermore, in this particular relationship, ChiSu’s organizational structure introduces an additional complexity. NPD Project Manager highlighted this as follows:

“It can be sometimes complicated... The message can be delivered from our side to our sourcing office, from sourcing office to ChiBu’s sales office... Here the sales office understood your message first, before they give your message to factory. For me that means the message is lost a lot in translations.”

These sources of complexity are discussed in more detail in the next section. Finally, an additional complexity for this supplier collaboration is introduced due to the fact, that there are products sourced from three material areas.

#### *Asset specificity*

FinBu has made partner specific investments mainly in the area of relationship building, along with medium level investments on tools. The relationship related investments mean that FinBu and ChiSu has co-developed a certain way of working together in new product development, which is called human asset specificity according to Williamson (1991). Thus FinBu knows what kind of capabilities and approaches they can expect from ChiSu in different areas. Controller, Global Supply Chain commented this as follows:

“It is not so easy to change the supplier. We have certain products that we purchase from this supplier and the supplier makes the products with our old manufacturing equipment very much the same way and looking the same as what we have done earlier. There is thus cost for a change. It is not impossible, but it is actually quite difficult.”

The investments on manufacturing tools are needed for each new product, which then represent physical asset specificity according to Williamson (1991). This is since, even though FinBu owns the tools, the manufacturing equipment usually differ between suppliers in such a way, that the tools are not reusable at another supplier’s factory. Product and Marketing Manager highlighted this:

“When we have a new product, or even an old product, then we have manufacturing tools and those cannot be transferred to another supplier. Thus we cannot make the same product elsewhere without making investments.”

On the other hand, the tools are rather generic, and do not require unique skills to design them. Thus they are not a barrier in that sense to exit a supplier.

ChiSu has made partner specific investments into this relationship mainly in the areas of relationship building and capabilities. They have, however, secured some of their capabilities from appropriation concerns, by retaining it as their proprietary information, how they design and create the manufacturing tools for each product. This information is not shared with the FinBu, since the supplier considers that capability to be their competitive advantage. It is also good to point out that even though ChiSu bought the manufacturing equipment from FinBu when the collaboration was initiated, ChiSu has acquired also other customers. Thus the manufacturing equipment is not a partner specific investment from ChiSu’s point of view.

#### 4.1.2 Main organizational actors and activities

##### *Finnish MNC (FinBu)*

The actors who are involved in the supplier collaboration in FinBu, and who were interviewed for this study, are located in three different organizational units: Global Sourcing, Business Unit, and Sales and Operations. The main actors in the Global Sourcing unit are Material Area Managers, Material Area Specialist, Sourcing Managers and Quality and Sustainability Manager. It is noted that the Global Sourcing unit was established only about three years ago, which was the time when these roles and the related work split was defined. In the Business Unit the main actors are Product and Marketing Managers and NPD Project Managers, while in the Sales and Operations unit the key actor involved in the supplier collaboration is Supply Chain Manager. The role of all these actors and their activities with regards to supplier management and collaboration are described below.

##### *Material Area Managers (MAM) and Material Area Specialist (MAS)*

As explained above, FinBu sources products from three material areas from ChiSu. There is a dedicated Material Area Manager (MAM) nominated for each material area: MAM1, MAM2 and MAM3. MAM1 and MAM3 are based in US, and MAM2 in Finland. Each MAM is responsible for the global sourcing strategy for his material area. This responsibility covers areas like quotation and supplier selection for products, ensuring the proper number of suppliers per material area, and planning supplier base with regards to several critical parameters. The main goal is to ensure that the supplier portfolio per each material area is structured effectively in a global scale, so that the supplier base can react to the company's demands globally. Material Area Manager for MA1 explained this:

“Material Area Manager is responsible for all things in sourcing. So that will be quotation for products, supplier selection for products, making sure we have proper number of suppliers, supplier base from spending point of view, the right amount of money and the right suppliers.”

Material Area Manager for MA3 similarly described:

“So it's a global responsibility and I also call it a business area responsibility. So the global responsibility means we look at global strategy, sourcing strategy this is, and then we support any activities, whether it is strategic or tactical.”

Additionally there is Material Area Specialist (MAS) in Finland who reports to US based MAMs, and thus takes care of global sourcing strategy for products sold in European markets for MA1 and MA3 material areas. Material Area Specialist described the idea behind her role:

“That we would have a common supplier base in US and Finland. That we could handle possible capacity problems and see the overall picture of that supplier base. Part of them may be common and part of them are not.”

The supplier selection for any new product development (NPD) project is always done through quotation process, even for strategic suppliers, and is driven by MAM. The actual interaction with the suppliers is done with the help of Sourcing Managers based in China, who ensure correct communication. Quotation is asked from selected suppliers, both from the existing and new ones, by providing them with the specifications of a new product. MAM approves or disapproves any new suppliers based on certain pre-defined criteria, and is responsible for selecting the supplier for the new NPD program together with the Business Unit’s guidance on targeted pricing.

In addition to creating the global sourcing strategy and selecting the suppliers, MAM has the overall responsibility for the suppliers for his material area. Thus if there are any issues with the supplier, not only related to one NPD project, but any larger issues covering e.g. several projects, then he is the responsible person to address and solve it, usually together with the sourcing managers in China. For any quality problems, MAM is also kept in the loop, but there is also a dedicated quality team responsible for quality control and quality improvement projects in China region. In case there are any pricing problems, e.g. continuous price increases for the existing products, MAM is responsible for creating plans how to reduce the prices in a longer term future, e.g. with the help of a price reduction project with a supplier. Material Area Manager for MA1 commented: ‘Also have lead time as one of my metrics as well as productivity and improvements in different cost reduction activities.’ MAM typically engages with Product and Marketing Manager on a regular basis, in order to discuss any ongoing projects involving price reductions or changing the supplier.



### *Sourcing Managers (SM)*

Sourcing Managers, who are also part of the Global Sourcing unit of FinBu, have the operative role of managing the collaboration with ChiBu. Sourcing Managers are located in the regional sourcing office in China, and each Sourcing Manager is responsible for the interface and the performance of certain nominated suppliers within that region. In the studied relationship with ChiBu, there is a separate Sourcing Manager responsible for each material area, SM1, SM2 and SM3. Sourcing managers take care of the daily interaction with the supplier. Their responsibilities are to monitor the performance and shipments operatively and they also report to MAM of their material area, in matrix form, for these issues. They also hold face-to-face meetings with the supplier to review the performance of the supplier. Material Area Manager for MA2 explained the role difference between MAM and Sourcing Manager as follows:

“Sourcing Managers are responsible for individual suppliers in each region and their performance. Thus operative responsibility is kind of more held by Sourcing Manager, while strategic responsibility, in a long-term basis, is held by MAM.”

Sourcing Managers act also as a communication link to the supplier, and thus provide support in various operative activities within their material area. In this work they ensure that the messages are translated correctly between different languages, in order to avoid misunderstandings. In case there is a need to discuss e.g. a certain NPD project in a more detail with ChiBu, Sourcing Manager responsible for this material area may organize a face-to-face meeting with the supplier to ensure proper communication. Sourcing Manager highlighted these activities as follows:

“So I work with the projects with them. We have biyearly meetings, face-to-face. And project review with them. To go through all the details about all areas, like quality levels and all the delivery stuff. And because we deal with the NPD projects, we give them feedback.”

Thus Sourcing Managers act as representatives of various issues towards the supplier, mainly because they are located close to the supplier and speak the same language. For this reason there are also product development people, engineers, design engineers and manufacturing engineers in the China sourcing office, who can give support for the sourcing managers in discussing the NPD project with the supplier. The NPD Project Manager is however located in Finland/US during the NPD project, for whom Sourcing Managers give their support. After the NPD project is finished, the management of the product from sourcing point of view is transferred fully to Sourcing Managers in China.

### *Quality and Sustainability Manager*

Quality and Sustainability Manager is based in the sourcing office in China. Quality and Sustainability organization is responsible for inspection of shipments, as well as for supplier audits for quality management and code of conduct. Each shipment from the supplier is inspected with certain sampling before it leaves from the supplier's factory. Quality management audit assesses the way how the supplier operates with regards to quality management, while code of conduct audit examines the social responsibility and environmental issues. Quality and Sustainability Manager described the activities:

“So Quality and Sustainability organization is responsible for all inspections there in the sourcing office. Product inspections, supplier audits. We make quality management system audits and code of conduct audits, which then contain social and environmental issues.”

In addition to the audits and shipment inspections, the quality and sustainability organization is responsible for establishing quality improvement projects and handling customer claims with the supplier. A quality improvement project may be initiated if it is identified that the supplier has a quality problem with a certain product. The target of the project is to find out the cause for the problem, and define a corrective action plan for it. The quality management audit is then utilized later on for assessing the operative improvements that the supplier has implemented, and in case problems still exist, for defining a new corrective action plan.

The frequency of quality management audits depends on the supplier status. With 'strategic' and 'preferred' suppliers, they are done every year, and with really large suppliers FinBu may even have quality people working full-time at the supplier's office. With 'approved' suppliers, only product shipment inspections are done, but not quality management audits. Code of conduct audits are done for all suppliers. Since ChiBu is a strategic supplier for MA1 products, all procedures: quality management audits, code of conduct audits and product shipment inspections are done for all three material areas. Quality and Sustainability Manager elaborated this: 'So naturally if we make an audit, then it is done for the whole factory. Thus we don't do it only for certain manufacturing lines, but for the whole supplier.' In addition to these operative responsibilities, Quality and Sustainability Manager holds also a global role within the global sourcing unit, for planning quality requirements for the suppliers globally. This work is done together with the quality and sustainability teams in the business units.

*New product development: NPD Project Manager, Product and Marketing Manager*

There are new product development (NPD) teams both in Finland and US, supporting the Business Units in both locations. In a NPD team there are designers, engineers, and a project manager, who is responsible for a certain NPD project overall. Product and Marketing Manager (PMM) owns the product development pipeline, since she is responsible for the product portfolio for a certain product category - its development and the pricing. PMM usually has some requirements also for the supplier, e.g. related to pricing, but she does not directly interact with the supplier and therefore co-operates internally with MAM and NPD project manager. Some of the requirements for the supplier PMM might give also to the sourcing managers in China. The day-to-day management of the NPD with the supplier is, however, managed by a clearly defined interface; NPD Project Manager. Product and Marketing Manager explained this:

“We have, in my opinion, quite clearly divided the responsibilities, that on what topic areas each person is in contact with the supplier. I would say that during NPD project it is our NPD manager, i.e. project manager.”

NPD process is a complex process, and requires a lot of collaboration between the buyer and the supplier. FinBu needs information from the supplier in order to decide certain things, and after these decisions are made, then ChiSu needs these decisions as an input in order to proceed with their work. Various decisions are needed about the product, packaging, pricing and materials. In principle, these issues are planned together with the supplier, although the buying firm eventually makes the final decisions. Due to these various decisions, the NPD process lasts long time.

NPD Project Manager interacts with the supplier on a daily or weekly basis through mail and Lync. NPD Project Manager described his collaboration with the supplier:

“Normally I meet them August-September... Then we meet a couple times for projects and majority it is weekly meeting about – to discuss the things. The projects. This is what we do with our manufacturers. It depends how much the project needs.”

He might ask for a product sample from a supplier, evaluate it and provide feedback to the supplier, who will then modify the product or the package accordingly. The supplier may also send suggestions to modify a product in order to improve it in some way, or suggest e.g. different packaging material to reduce costs. NPD Project Manager holds

also regular meetings internally within FinBu, with Material Area Manager, engineers, and Product and Marketing Manager in order to decide what to do with the burning issues.

### *Supply Chain Manager*

Supply Chain Manager is based in the Sales and Operations unit, and manages purchasing of the mature products in production. Supply Chain Manager starts her work when the supplier produces the final test series before the mass production is initiated. After the test series is approved, Supply Chain Manager start to place the purchase orders. The purchase order is sent by mail to ChiSu, and the corresponding Sourcing Manager in China is copied in the mails. This is since in case there are any issues with the order, which occur however rarely, Sourcing Manager can handle the topic in China. In the sourcing office in China, there is also a Procurement Specialist, who ensures that the purchase orders are properly inserted into the IT system, and monitors the shipments on a daily basis to ensure that they leave on time from the supplier.

Supply Chain Manager receives sales forecasts from the sales companies once per month, prepared by Demand Planner. Supply Chain Manager elaborated this as follows:

“Demand Planners collect from these [sales] companies the forecasts and then they are inputted to the [IT] system. ...Through that the data comes to us... And then it makes automatically suggestions, based on certain things like delivery times... And of course it needs to be then analyzed and checked.”

Supply Chain Manager checks the sales forecasts, and sends it in the form of a purchasing plan to ChiSu, with the aim to get comments to it from the supplier. It is a 12 months rolling plan, where the first months are rather accurate, and last months are rough estimates. Earlier, ChiSu was responsible to keep MA2 products available in its own storage for FinBu’s purposes according to predefined minimum and maximum quantity. Thus it was a certain type of VMI (vendor managed inventory) concept maintained at the supplier’s side, with the target to reduce the lead times. But since FinBu is in the process of discontinuing the sourcing of MA2 products from ChiSu, the VMI model has just recently been dissolved. At the time when the VMI model was still in use, the 12 months rolling purchasing plan was in a more key role, since the ChiSu was making their own planning for VMI based on that.

## **Chinese Supplier (ChiSu)**

### *Factory staff*

ChiSu's factories are located in the same area where FinBu's sourcing office is located. ChiSu's factory staff is responsible for planning and designing the mechanisms and tools for the manufacturing, as well as carrying out the final production.

### *Sales staff*

Supplier's sales office is located near Hong Kong, quite far from their factories. The sales staff act as an intermediary for all the communications with the factory staff. They are also responsible for negotiating all the commercial issues with their customers.

### **Operative structure of the collaboration**

Figure 6 shows the operative structure of the communication and collaboration between FinBu and ChiSu. According to ChiSu's requirements, all the communication has to go through their sales office, even though the intent would be to contact the factory people. Material Area Manager for MA3 commented that the structure is not typical among suppliers: 'Like with some other vendors we interface directly with the factory owners.'

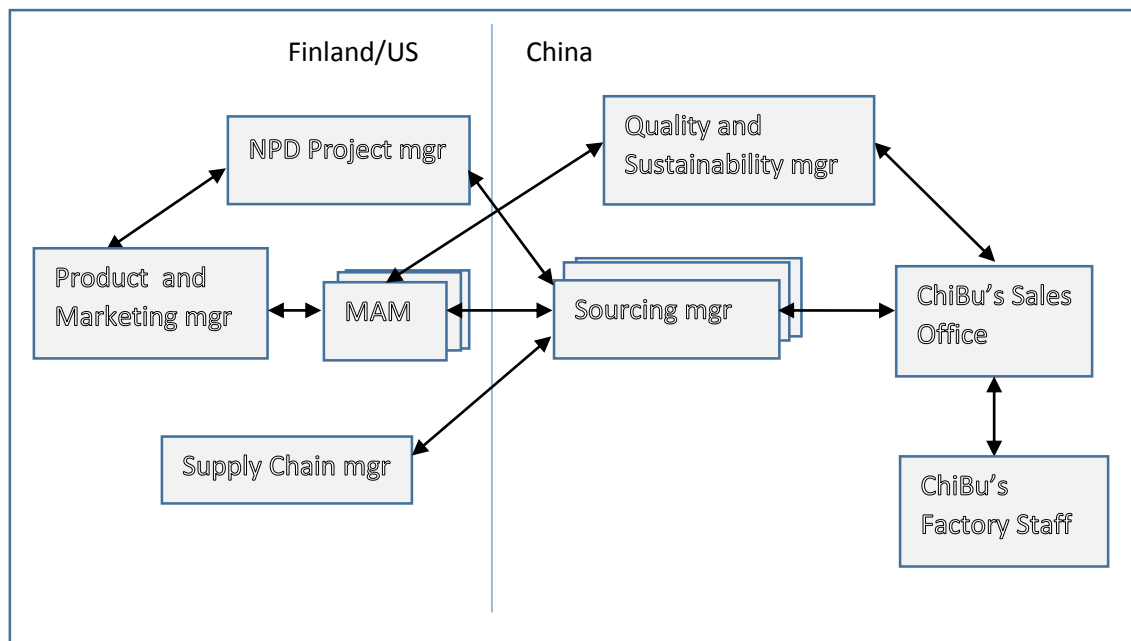


Figure 6. Organizational set-up between FinBu and ChiSu.

#### 4.1.3 Views on the goodness of the collaboration

It is worthwhile to describe also the views of the respondents on what areas work well in the collaboration with ChiSu, and where are the biggest challenges. This describes the context in which the collaboration is managed and may explain some of the reasons for the selected control and coordination mechanisms.

The areas which were placed in the positive side in collaboration with ChiSu, were the learnings obtained in the MA1 material area and the engineering support in the supplier's factories. As described already for the purpose of the relationship with ChiSu, FinBu obtains valuable knowledge for materials and other issues in MA1 area, which provides a clear source of competitive advantage for the company. Sourcing Manager even commented that this is probably the main reason why the relationship is continued with ChiSu, despite many challenges. Another area that was mentioned to be in the positive side, is the engineering support that ChiSu provides in their factories. Sourcing Manager explained this: 'The factories is good. And we have very good quality level and good service about customer service.'

The views on where there are challenges with ChiSu consisted of a much longer list of topics. These can be summarized into five key areas: level of collaboration, communication, performance problems, appropriation concerns and ChiSu's market positioning. Firstly, the level of collaboration refers to how responsive ChiSu is to FinBu's needs or queries, what is the style of collaboration in general and what is the role of face-to-face meetings in the collaboration. The relationship was commented to be very business transaction focused, meaning that anything that FinBu asks from ChiSu introduces additional costs, which is quite different approach compared to other suppliers. Material Area Manager for MA3 elaborated this:

"Everything that we do, they cost... If you compare some other vendors, they can do anything that we are working on and like if you want premium packaging and you are launching products it is not a problem for most vendors to provide samples"

For this reason partnership with ChiSu was viewed to be compensation based, rather than relationship based. The reason for the transactional approach at the supplier's side was assumed to be their organizational structure, since FinBu is among the top two of their customers. ChiSu's sales office is found to be very strict, slow in responding to any

queries, and rather reluctant to organize face-to-face meetings. Sourcing Manager commented as follows:

“...the sales office, very slow feedback and very inefficiency in their sales office...And then, how would I say, they say... a lot of personal meetings...Their feedback time, I would say, requests. So we have worked with them to reduce the cost. But we have not got any feedback.”

Therefore there have been lately face-to-face meetings only twice per year with ChiSu, which was not seen sufficient to obtain proper understanding of the supplier's thoughts and wishes on different areas. In general, the collaboration was not seen to be at good level with ChiSu.

Secondly, communication challenges involve the complex structure of communications, different time zones, timeliness of communication and problems in getting understandings aligned. ChiSu's complex organization structure was mentioned to occasionally even cause a message to be modified from the original one, before it reaches the other end of the communication pipeline. This is since typically each person understands things differently, and ChiSu's principle is that the sales staff needs to understand any message first, before they give it forward to factories or to FinBu. Furthermore, since actors of the collaboration are located in different time zones, full day meetings are difficult to organize, even if some critical issues seem to be unclear. The lack of timeliness of communication, in turn, may increase costs in new product development, in terms of time and money. As Material Area Specialist described:

“The feedback from supplier, it may be that it is not fully accurate. That they have not had the time or had put effort in really familiarizing with the topic...And only when the work really starts, then they finally realize that it does not actually work after all because there is this part...”

Getting the understandings aligned on concepts like quality may also be challenging. What further complicates this is that the quality requirement levels differ between US and European markets, both legally and from customer demand point of view, the latter of which may refer also to issues like visual quality, quality of the material and performance of the product features.

Thirdly, there have been performance problems both in terms of quality and deliveries. These usually involve existing products in the production, rather than new product development projects. ChiSu has had quite a lot of quality problems lately, not in the products itself, but in the area of packaging. There were also major delivery problems this

year due to Chinese New Year, which is a recognized risk for delivery reliability, since the factory workers might decide during their holidays to stay in their home town, and find a new job there. Some Chinese manufacturers promise a reward for those workers who come back after the New Year, and are thus able to retain their workers quite well. As Supply Chain Manager explained:

“This year ChiSu suffered extremely, since about half of the line workers did not return. And then it was shown in its delivery times...If you lack employees, then you cannot suddenly get those in place who are capable of doing it...It took not exactly six months but almost.”

Fourthly, ChiSu can be somewhat observed to utilize appropriation concerns for their benefit, through requiring continuous price increases for the products that they manufacture. When discussing the level of asset specificity, and asking whether the supplier is possibly utilizing the asset specificity for their benefit, Controller, Global Supply Chain, after admitting that changing the supplier is not so straightforward, commented: ‘Yes, price up. We have had these cases...Price negotiations...’ Supply Chain Manager also commented this topic: ‘They just sometimes contact us and inform that now we have new prices. Some time back we had these two years in a row. But not this year, so it varies.’

Finally, the market positioning of ChiSu was commented to be at the premium high-end type of products. They have good understanding and capabilities in the technologies, and have the capability to manufacture products with high quality. On the other hand, this causes their costs to be also rather high, which is one reason why FinBu does not consider ChiSu to be price competitive for the products that FinBu is sourcing from them, especially in MA2 and MA3 material areas.

#### 4.1.4 Global integration of the collaboration

Finally, it is assessed whether there are any explicit differences found or agreed for how the collaboration with ChiSu is managed, depending whether it is done from US or Finland. This will affect how the interview data on control and coordination mechanisms should be collated and analyzed in the next section.

The interviewees clarified that the processes differ somewhat between Finland and US, both in business units, new product development, and material area management. The tasks and activities are the same, but they may be done in somewhat different ways from



process point of view. The reason for this is basically the history of the company, since originally the company was fully decentralized, each country running their operations independently from each other. Global Sourcing unit was established only about three years ago, after which the aim has been to use the same processes towards suppliers, but they are not yet fully aligned. All differences are not even fully known. As one interviewee highlighted, there seems to be no-one having an overall view of the differences in new product development (NPD) between Finland and US, in terms of the processes towards the supplier. The consequence of this is that ChiSu may experience somewhat different ways of handling certain issues, depending whether the topic is related to material areas managed from Finland or US. One reason for the different processes in NPD is that Finland still has its own manufacturing, and with the help of that capability can thus plan a new product much further before providing the specifications to the supplier. On the other hand, Material Area Manager for MA3 explained that having the Sourcing Managers in sourcing office has increased the alignment of collaboration:

“I think there is a bit different emphasis on how we deal with the vendor...But now there is more capability on the product development programs in the sourcing offices. So now the sourcing office engineers are part of the feedback topic, to be on the site to be assisting on product development...So the sourcing office is doing a lot more.”

In addition to some minor process differences, it was also pointed out that currently no-one at FinBu side is having the responsibility for the collaboration with ChiSu as a whole. The criticality of this point might become relevant especially in case there were any open issues or bigger problems needing resolution. Material Area Manager for MA2 commented: ‘We have a definition for this, that it is that material area who has the biggest spend.’ Therefore in this case it should be Material Area Manager for MA1, who should act as an integrator, and coordinate the supplier collaboration with the other Material Area Managers (MAM) from MAM role point of view. Also the Sourcing Manager of the material area with biggest spend should be operatively responsible as a whole for the supplier’s interface, as a Sourcing Manager role. But this model has not been fully implemented.

On the question whether there are then any coordination between material areas, the answers reflected the fact that it occurs rarely at least between the US based MAMs and the MAM in Finland, while some coordination was done between US based MAMs. One of the MAMs commented that he does not see that the value of the coordination would

be worth the time required for it. One interviewee commented, however, that the lack of coordination has meant that any information coming from the different material areas is integrated only at the supplier's side, at their factories. Thus ChiSu has acted as an integrator role in a certain sense. Vice President, Global Sourcing also commented this topic as follows:

“The typical challenge, which we sometimes face, is that if the supplier has limited capacity for new product development, then if we load them simultaneously with new product development both through Finland and US, and the drivers are different in US and Europe, and then they are integrated in supplier's product development.”

Despite some differences in the collaboration, and quite low level of coordination between US and Finland, it can be concluded based on the interviewees' comments, however, that these do not require to divide the analysis of how the collaboration is managed into separate areas based on whether the activities are driven from US or from Finland. The main principle was, as described above, that the management of the collaboration with ChiSu is done in roughly the same way from both sites, with a further alignment taking place at the sourcing office in China.

## **4.2 Data and analysis of the control and coordination mechanisms**

### **4.2.1 Coordination mechanisms from Bartlett and Ghoshal**

Firstly, the studied collaboration between FinBu and ChiSu is analyzed with the help of the coordination mechanisms from Bartlett and Ghoshal (2002), including formalization, centralization and socialization. The formalization in the relationship is present especially in the quotation process, purchase order process and auditing and shipment inspections. The procedures for those are predefined, and there is little freedom at the supplier side how to conduct them. Supply Chain Manager explained the purchase order process:

“In the middle of each month the sales forecasts are updated that we receive from the sales companies and this information is sent to this supplier... Based on this data the purchase orders are then done...It is sent through mail and then they [supplier] confirm the orders. The aim is that they confirm it within two days...Then I check it.”

The formality of purchase order process and shipment inspections are in line with the comments from Bartlett and Ghoshal (2002), since they argue that out of the three flows that exist within the organization, flow of goods, resources, and information, the flow of goods is a good candidate for formalization, since that will enable to reduce costs in those operations and thus increase efficiency.

The centralization in an inter-firm case would conceptually mean that the decisions would be done mainly at one side of the relationship. It could be said that the centralization in the studied case takes place only during the supplier selection phase, since during that phase FinBu has the freedom to decide whether they select a certain supplier for a new project or not. After the supplier is selected, and the project proceeds into new product development (NPD) phase, most of the decisions need to be made by taking input from both sides of the relationship. Even during the operative phase of manufacturing the existing products, FinBu has no possibilities to decide all issues. This is shown in the comments from Material Area Manager for MA3, even though he mainly describes ChiSu's focus on business transactions:

“Approach is very business transactional level. Everything that we do, they cost...Like when we ask exception, we are asking them to hold inventory without initiating a commitment from us, they demand us to make a purchase order.”

Bartlett and Ghoshal (2002) suggest that the flows of resources within a firm, consisting of financial, human or technological resources, are an area for which centralization may be a viable coordination mechanism, since that typically requires an understanding of the overall situation. In an inter-firm case involving two separate firms, it can be said, however, that in addition to not having even the control possibility over the other firm, the firms do not necessarily even have an overall understanding of the resources of the other firm. Thus the idea of using centralization for resource flows is not so valid point in an inter-firm case.

The socialization in the collaboration between FinBu and ChiSu takes place both in strategically oriented meetings and during the operative NPD process and performance reviews. FinBu organizes annual supplier day for its 'strategic' and 'preferred' suppliers, where it shares its strategy to them, after which it organizes an individual meeting with each of these suppliers in order to discuss whether the long-term strategies are aligned between the partners. These two meetings can be viewed as a mechanism to align the objectives between the two firms. During the NPD process, there is also a lot of information exchange between FinBu and ChiSu, in order to align the goals, and to agree the various aspects of the developed product and its manufacturing. Product and Marketing Manager elaborated this:

“During that [NPD] we need to do a lot related to product, packaging, pricing, materials. We need to decide these together in principle, or well, we actually decide it eventually, but the supplier can give good suggestions and provide their input for it.”

Sourcing office in China is in the key role for managing several aspects of the socialization. As Material Area Manager for MA3 described:

“One target for them [sourcing managers] is understanding and ensuring that communication is clearly understood and translated back... And they need to ensure that they clearly understand what is being communicated.”

These findings are in line with the suggestion from Bartlett and Ghoshal (2002) that socialization, in the form of aligning the objectives and priorities, is recommended especially for information flows, since it would be quite impossible to coordinate these with centralization or formalization. It could be said, however, that in an inter-firm case, despite the various socialization mechanisms, there is probably quite often some tension and different objectives remaining e.g. with regards to pricing the products and activities. This was also shown in the studied case, since the interviewees pointed out the continuous pressure for price increases at ChiSu side, and the gear towards handling several issues through business transactions.

In the literature review section, the framework of differentiated fit of coordination mechanisms from Ghoshal and Nohria (1989) was presented, for which the context variables and the different types of interdependency are depicted in Figure 7. Naturally in the analysis of this study the situation does not involve a relationship between headquarters and a subsidiary, but instead a MNC as a buyer and small firm as a supplier. In principle, however, there is no reason why this kind of inter-firm relationship could not be analyzed with this same framework, since the similar context variables exist also in this case. Furthermore, contemporary MNCs may be structured in a network form, as described by Bartlett and Ghoshal (2002), and therefore the relationship between MNC and its supplier could be viewed as one additional element or link in MNC's network structure. Thus the framework of differentiated fit of coordination mechanisms from Ghoshal and Nohria (1989) is used for analyzing the studied case by replacing headquarters with MNC (FinBu) and subsidiary with a small supplier (ChiSu).

<b>Environmental Complexity</b>	<b>(high)</b>	<b>C3</b>  Interdependency: High & Subsidiary Dependent	<b>C4</b>  Interdependency: High & Headquarters Dependent
	<b>(low)</b>	<b>C1</b>  Interdependency: Low & Subsidiary Dependent	<b>C2</b>  Interdependency: Low & Headquarters Dependent
		<b>(low)</b>	<b>(high)</b>
		<b>Local Resources</b>	

Figure 7. Classification of subsidiary context and nature of interdependency and dependency in each context (Ghoshal & Nohria 1989).

If the relationship between FinBu and ChiSu is looked at a whole, it is quite difficult to analyze it with the framework from Ghoshal and Nohria (1989), since it does not clearly belong to any certain quadrant in Figure 7. If the collaboration is, however, divided into subareas, defined by different activities, then it becomes possible to do the allocation and analysis. The two main subareas or activities within the collaboration are new product development (NPD) and manufacturing of existing products. NPD can be said to represent the context variables of quadrant C4, since the complexity of the environment is high with regards to local competition and technological dynamism. There are innovations in products and manufacturing processes, and ChiSu has also advanced resources in terms of technology and management. This was shown in the context analysis section where the purpose of the relationship was evaluated, highlighting the fact that ChiSu was able to provide competitive intelligence on new technologies emerging in the market. The manufacturing of existing products, in turn, fits to the quadrant C2, since the environmental complexity for it is rather low. The technology for it has already been selected, so there are no new innovations involved. On the other hand, the resources of ChiSu in terms of capabilities are still high. As it was explained in the literature review, an integrative coordinative model is recommended for C4, where centralization is low,

formalization moderate and socialization high. C2 quadrant, in turn, was recommended to utilize a federative coordination model, with low centralization and socialization to reduce costs, while formalization is recommended to be at a high level.

The control mechanisms used in the collaboration between FinBu and ChiSu fit to this model quite well, as shown in Table 2. During the NPD project, the socialization is high, since the understanding what the new product should be like, and whether it is possible to manufacture, needs a lot of information exchange between the parties in order to align the goals. NPD Project Manager described it as follows: ‘...during the product development phase we have a lot of discussions. We have to change things based on supplier’s input’. Material Area Manager for MA1, in turn, had following comment on whether it is formal or not: ‘When it comes to policies and procedures, there is nothing formal when we have things after quotation’. On the other hand, there are clear milestones in the NPD process, like NPD Project Manager explained: ‘We have milestones and we have activities that need to finish’.

Activity	Coordination mechanism	Findings from the studied case.
NPD	Centralization: low Formalization: moderate Socialization: high	Input from both parties needed. NPD process with clear milestones. Lot of information exchange in order to align the goals.
Manufacturing of existing products	Centralization: low Formalization: high Socialization: low	Most of the decisions made already in NPD phase. Audits and regular performance reviews. Not much effort put on aligning the goals, since that is done already in NPD phase.

Table 2. The usage of coordination mechanisms of Bartlett and Ghoshal (2002) in the studied case.

When the product finally exists and is in manufacturing phase, there is less need for aligning the objectives. In that phase the formalization takes a bigger role in the form of audits and regular performance reviews. Centralization can be said to be low in both activities, as it was already discussed above. Centralization is used practically only in the quotation phase, which precedes the NPD process. After the quotation, when the supplier is selected, there is less possibilities for only one side of the relationship to do the decisions alone. And there are in fact less need for making decisions for the

manufacturing of existing products, since majority of issues have been decided during the NPD process.

It is good to point out, that Figure 7 shows only one example how the differentiated fit of coordination mechanism could be designed, even though it seemed to fit quite well to the studied case. Furthermore, Nohria and Ghoshal (1994) highlight that the formal coordination methods, centralization and formalization, and the socialization coordination method can be considered as alternative methods to each other leading to similar performance improvements, while using all three of them will in fact give the best performance. In specific, it is a question of cost vs. effectiveness what is the most attractive combination for a firm, and the most suitable combination may also depend on factors like the size of the company and the number of units that need to be coordinated.

If the second part of the research question is still looked at separately, i.e. why the described coordination mechanisms are in use, there seems to be various reasons for it. Firstly, NPD process is inherently that kind of process which requires socialization type of coordination, in order to clarify different options and then align the objectives. But specifically in the studied case, it was also highlighted that ChiSu has intentionally kept it as their proprietary information how they design the tools for manufacturing. As Material Area Manager for MA3 explained:

“But we cannot know how they build it, they don’t really share that very much with us. Like how they build the tool, they keep it to them as proprietary, since that is an advantage to them.”

Thus FinBu does not have all the knowledge available for the manufacturing technology, and therefore they need to utilize socialization mechanisms in order to align the goals and priorities, and ensure that the designed product is also possible to manufacture. This is the reason why the socialization coordination mechanism has a big emphasis in NPD. The reason why formalization is high in manufacturing of existing products is that in consumer products there are certain legal requirements for quality in the products in question, and thus it is important to ensure with inspections and quality audits that these requirements are met. Furthermore, it was clarified that customers also require that certain social and environmental requirements are met. Material Area Specialist explained this: ‘Our customers demand that the products they buy are manufactured ethically and environmentally in a sustainable way.’ For this area there was also secondary data

available in FinBu's website, highlighting the firm's commitment to social and environmental responsibility. Finally, the reason why centralization is low was already discussed somewhat above. In an inter-firm setting there is no possibility for only one side of the relationship to do the decision making, after the agreement to collaborate together has been made.

#### 4.2.2 Control taxonomies

It was described in the literature review, that in the research where the control patterns are looked at on a higher abstract level, they are typically divided into market, hierarchy and some alternative patterns. In the studied case between FinBu and ChiSu the control pattern clearly contains elements both from market pattern in the form of price and from hierarchical pattern in the form of detailed rules for social and environmental responsibility and tight performance targets for quality and delivery. There are also features present from the alternative patterns. NPD process contains coordination and cooperation with frequent interaction (Håkansson & Lind 2004), performance assessment on emergent standards and participatory information sharing (Speklé 2001), and framework contracts, culture based control mechanisms and trust-based behavior (Van der Meer-Kooistra & Vosselman). Material Area Manager for MA1 highlighted the presence of relationship control pattern in the collaboration with ChiSu:

“The approach with ChiSu...So it is relationship building. So in terms of how we work with ChiSu for Chinese mindset for 9 years. So that's a fairly long period of relationship building.”

If the traditional extant research is viewed at first, which typically links a certain control taxonomy with certain context variables characterizing the activities in the relationship, it can be concluded that the relationship between FinBu and ChiSu fits quite well to two control archetypes from Speklé (2001). Speklé (2001) has defined nine different control typologies based on different combinations of three variables defining the type of activities to be controlled: uncertainty, the degree of asset specificity and the intensity of post hoc information impactedness. Low post-hoc information impactedness means that the organizations are able to evaluate the performance objectively without bias. At the first sight, none of the nine control typologies seem to match the studied case, but if the two somewhat distinct activities of new product development (NPD) and manufacturing of existing products are looked at separately, then relatively good matches are found among the Speklé's (2001) typologies. The control mechanisms used for NPD represent



quite closely ‘exploratory hybrid control’, while the manufacturing of existing products can be said to utilize the mechanisms of hierarchical arm’s length control. The description of these two control typologies from Speklé (2001) are shown in Table 3.

Control archetype	Determinant variables for activities to be controlled	Characteristic features of control
Hybrid Exploratory Control	Low programmability Moderate asset specificity Low post-hoc information impactedness	Outsourcing with limited number of suppliers. Ranking of suppliers typical; implicit but credible contract renewal promises. General contracts. Close interaction, joint responsibility. Information flows to achieve cooperation. Performance assessment based on emergent standards.
Hierarchical Arm’s Length Control	High programmability Moderate asset specificity	No full outsourcing, in-house production also. Relies mainly on market mechanisms. Assesses performance relative to competitors. Intervention mechanisms if performance out of line.

Table 3. Two control archetypes from Speklé that fit to the studied case. Constructed from Speklé (2001).

In NPD the uncertainty is rather high, meaning that its output cannot be programmed in advance, asset specificity is at medium level as described in the context analysis section, and the performance of the output can be measured objectively. The features of control in NPD also represent quite well the hybrid exploratory control pattern, since the contracts are rather general, performance in terms of quality is agreed and defined gradually during the NPD, since even the material can change during the NPD process, and there is a lot of information sharing between the parties. NPD Project Manager described information sharing:

“In the factories of course they need information, because they have to do everything based on our specifications. Which means that we need to share with them the information about the products... We have a lot of meetings with them.”

On the emergent performance criteria, NPD Project Manager described how the performance is not measured during the NPD, but only afterwards when it is possible to measure it.

“[Performance is evaluated] ...when we select the suppliers. We need to understand what is their, is it acceptable performance for a supplier. Of course we will measure it after the project. But during the project, of course everything is based on the FinBu product development standards.”

Furthermore, the suppliers are ranked relative to each other and there are implicit rewarding of new NPD projects. Material Area Manager for MA2 explained ranking as follows:

“We have ‘approved’ which is kind of the basic level... Then we have ‘preferred’, and then ‘strategic’... And then below that [approved] there is also exit. Thus when it has been decided that it [supplier] does not continue so to speak.

Material Area Manager for MA1 elaborated the implicit rewarding:

“We do not reward them directly. How we reward is that we reward them from good collaboration is through rewarding a NPD project for them. So if they do a good job with the previous project, if the quality is good and cost improvements, we then give them future projects.”

In the manufacturing of existing products, in turn, the uncertainty is low, meaning that the output can be programmed in advance, but the asset specificity is still at medium level. The price is the dominant control mechanism, combined with the regular performance assessment including benchmarking to other suppliers. FinBu still has also own in-house production, so that feature fits also to this pattern.

Although Speklé (2001) has divided his control typologies into several distinct categories, each category actually contains features from more than one classical control pattern. For example, the hierarchical arm’s length control contains elements from both market and hierarchical control, while hybrid exploratory control contains features from both hierarchical control pattern, in the form of performance assessment, and from relationship type of control pattern, in the form of joint responsibility and information exchange. None of the nine control typologies from Speklé (2001), however, contain all three control patterns, market, hierarchy and the alternative pattern, simultaneously.

Håkansson and Lind (2004) were among the first scholars, who argued that all three control patterns can exist simultaneously within the same relationship. Their findings showed that the long relationship between Telia and Ericsson contained elements of all patterns: market, hierarchy and relationship. On the other hand, it can be noticed from their results, that the used control pattern depended on the activity in question. Some of the activities concerned mainly existing and ongoing projects between the two companies, while other activities involved new topics not yet fully agreed even within the companies in question. For the new topics, there was e.g. more market mechanisms involved than for existing projects, which were more reflecting the relationship type of control pattern.

Similar conclusions can be drawn from the studied case in this thesis that the utilized control pattern depends on the type of the activity, as it was already concluded above with the help of Speklé's (2001) control categories. On the other hand, if the relationship between FinBu and ChiSu is looked at as a whole, in the similar way as Håkansson and Lind's (2004) study assumes that the unit of analysis is the whole Telia and Ericsson relationship, then it can be indeed concluded that the collaboration in the studied case contains all of the three classical control patterns: market, hierarchy and relationship control pattern.

Van der Meer-Kooistra and Scapens (2008) state that it is quite likely that an inter-firm relationship contains all of the three control patterns present at the same time, due to the fact that there is typically a need to balance between several paradoxes inherently present in lateral relations between two firms. These paradoxes concern e.g. simultaneous requirement of flexibility and standardization, co-operation and competition, and joint leadership, and are present especially in case the characteristics of the relationship involve interdependency, complexity and continuous change. In the studied relationship between FinBu and ChiSu new product development contained all of these characteristics: reciprocal interdependency, high complexity and medium level of change, and all the three control patterns were indeed found to be present for managing the collaboration. Market control was present through quotation process, hierarchical control was exercised by FinBu defining the procedures and milestones for NPD process, while relationship control was conducted by regular interaction between the partners, information exchange and face-to-face meetings. The manufacturing of the existing products, on the other hand, did not consist of high task interdependency nor high level of complexity or change, which may explain why it did not involve all of the three control patterns to the same extent. For the manufacturing of the existing products, it was thus mainly market and hierarchical control patterns in use.

If the second part of the research question is still looked at separately, i.e. why the described control typologies are in use in the studied case, the underlying reasons can be divided into two main areas. Firstly, the reason why the control patterns differ in the two activities, NPD and manufacturing of existing products, can be related to the fact that the characteristics of these activities differ quite much from each other. NPD involves

developing something new, which means that the relationship control pattern is in a key role for ensuring information exchange, in order to align the objectives between both parties. Manufacturing of the existing products, in turn, is focused on running the operations cost-effectively and ensuring the quality, sustainability and customer satisfaction, leading to a more hierarchical control pattern, while simultaneously coupled with market pattern, inherently present when purchasing merchandise. Secondly, the rationale why several control patterns are used in the studied relationship as a whole, can be related to the paradoxes described by Van Der Meer-Kooistra and Scapens (2008). Developing new products requires flexibility, through adapting to the markets and competition, which was shown to take place by learning from the supplier in the studied case. On the other hand, manufacturing and shipments of existing products can be made more reliable, if there is certain level of standardization introduced for it. And thus all of the control patterns have a clear purpose and relevance in managing the collaboration.

Finally, it can be said, that even though the theories underlying the extant research on control taxonomies differ somewhat, in that Speklé (2001) is based on transaction cost economics (TCE) and organization theory, Håkansson and Lind (2004) on industrial network approach, and Van Der Meer-Kooistra and Scapens (2008) on a mixture of theories, it was in fact beneficial to utilize all of them for analyzing the studied relationship. This is interesting in that sense that these theories have quite different emphasis; TCE for example focuses on transaction cost minimization, while industrial network approach emphasizes value creation. On the other hand, it could be said that deploying these alternative theories enable to study the phenomenon of interest from multiple perspectives.

#### 4.2.3 Detailed control mechanisms

This section analyzes the detailed management control mechanisms that FinBu utilizes for managing the collaboration with ChiSu. The structure of this section follows the structure of inter-firm MCS package constructed based on Malmi and Brown (2008) in the literature review section. Since for each organizational actor, certain specific control mechanisms may be in a more key role than others, the differences in the views of interviewees on what are the most important mechanisms used for managing this collaboration are summarized at the end of this section.

## *Planning*

Planning is done both through contracts and interactive planning. The planning through contracts can be divided into three levels: a business contract, a frame agreement and a purchase agreement. The business contract covers general commercial aspects of the partnership like payment terms and quality or warranty claims. Material Area Manager for MA1 called it ‘vendor agreement’ since its content may differ between suppliers:

“Our vendor agreement covers payment terms, product delivery lead time, quality or warranty claims against the supplier...It’s a general business contract...For each supplier it could be slightly different although we have some standard quote there that we try to follow.”

The frame agreement is signed with ‘strategic’ and ‘preferred’ suppliers, and it usually covers aspects like continuous development of the supplier. With the frame agreement FinBu wants to demonstrate its desire to do long term collaboration with the supplier, and it also allows to increase stability in the relationship. The purchase agreement, in turn, contains pricing for the products sourced from the supplier.

Interactive planning can be divided into long term and short term planning. Long term planning consists of planning selected development projects with ChiSu, thus fulfilling the high-level goal of continuous development defined in the frame agreement. The development projects may be targeted e.g. for quality improvements or increasing the supplier’s manufacturing capacity. Furthermore, all ‘strategic’ suppliers are invited to an annual supplier day, where FinBu presents its strategy to them, and shares its guidelines what it expects from vendors who belong to this top level category, both from operations and customer service point of view. Material Area Manager for MA2 elaborated this:

“Owners, or a person who has mandate to represent the company. Thus the highest decision making level, so they have been invited to this kind of meeting once per year. We then go through the strategy.”

As a new topic for interactive long term planning, the idea is to establish a second level meeting following the supplier day, called executive meeting, which is also targeted to ‘strategic’ suppliers. The scope of that meeting is to discuss and analyze individually with each supplier, whether the strategies of the two partners are aligned in a longer term basis, and to create a long term plan together how to further develop the collaboration. The supplier day has existed before, while the executive meeting is a new idea, and is currently being tested with the selected suppliers.

Short term interactive planning is conducted for quality and performance related issues as well as for new product development. As NPD Project Manager described, NPD is planned in an interactive way and not through a specific contract:

“We do not assign a contract for a project. We have a big contract- that means everything with the new supplier, it means it’s the law, the fundamentals. Of course we have project meetings.”

For quality issues, the short term planning is done with the help of an annual business plan, which is a shared document with the supplier. Quality and Sustainability Manager explained: ‘The objective is to make an annual plan with the strategic and preferred suppliers...E.g. with regards to quality, what kind of development plans we have made.’ The new thing that has been just recently introduced, is that also the improvement actions agreed during the balanced scorecard (BSC) reviews with the supplier will be included to a similar document. BSC is described in more detail in the cybernetic control section. The action planning related to performance metrics on quality and delivery has been existed also before, but in the future it will be done with the help of a more structured BSC data.

Short term interactive planning for new product development (NPD) contains two levels: annual NPD plans and more detailed planning for a specific NPD project. FinBu shares its annual NPD plans with ChiSu for MA1 material area once per year, since ChiSu is a ‘strategic’ supplier for that material area. Material Area Manager for MA1 explained this:

“Then once a year we review with ChiSu our NPD plan, so our marketing managers have the yearly plan as far as they are looking for develop new products. So we will share that with ChiSu. However we don’t agree specific actions at that time...And they might engage us in conversation.”

No commitments are made towards ChiSu for giving any projects to them out of this plan, and no actions are agreed based on it. The plan is only shared for discussion purposes, in order to allow ChiSu to raise any possible issues or questions related to the plan well in advance. The detailed planning of a specific NPD project consists of planning the product and its manufacturing in more detail, as well as its schedule; a milestone framework defining the tasks and activities that need to be completed by each milestone. NPD Project Manager described how the milestone framework is planned: ‘Of course this is discussed many times before we define the timetables, and we include all the public holidays... The planning is done timewise together with the manufacturers.’

These findings are in line with the suggestion from Dekker (2004) and Van der Meer-Kooistra and Scapens (2008) that the contract based and interactive planning can be used

simultaneously for different purposes. The contracts do not seem to be, however, very detailed in the studied case, even though Ding, Dekker and Groot (2013) found that in a collaboration with high task interdependency and broad transaction scope the contracts are likely to be detailed. E.g. the detailed definition of the NPD projects were not included into the contracts in the studied case. The division of the planning between long-term and action planning follows also the findings from the extant literature, in that frame agreements lists the goal of continuous improvement (Seal et al. 1999), while short term planning consists of agreeing the short term goals (Dekker 2004) for quality and performance improvements, and defining timetables for the goals (Möller & Rajala 2007) in the form of milestone framework for NPD.

The reasons why the planning mechanisms described above are used in the studied case consist of both the typical market mechanisms as well as a more specific rationale. Having a general business contract is the basic thing between any buyer and supplier, since the generic responsibilities and liabilities naturally need to be clear. About the long term interactive meeting practices Material Area Manager for MA2 commented that they enable to manage the collaboration in a systematic way, and thus their usage reflects the rationale of bringing stability to the relationship in the presence of uncertainty (Dekker 2004). The action planning for quality and performance development, in turn, is done in order to ensure positive performance from the collaboration, as suggested also by Das and Teng (2001).

#### *Cybernetic controls / Budgeting*

FinBu can be considered to use some sort of budgeting in the collaboration with ChiSu in three areas: in quotation phase, operative purchasing and new product development. In the quotation phase, FinBu needs to assess whether supplier has sufficient capacity to handle the manufacturing of the new product. Thus the estimated volumes during the first years of sales are informed to the supplier, although there is no commitment given to purchase exactly those volumes. Material Area Specialist commented: ‘With some suppliers it can be so deep collaboration...that we know that the supplier always reserves certain capacity for us.’ Furthermore, in deeper collaborations, occasional agreements may be made at the end of the year, that FinBu purchases the finished products from the supplier’s storage, thus allowing the supplier to include the sales into that year’s financial

statements. ChiSu is, however, not considered to represent a deep enough collaboration, especially in MA2 and MA3 areas, so that these kind of more collaborative mechanisms would be relevant.

In the operative purchasing, a 12-month rolling purchasing plan has been sent to ChiSu once per month by the Supply Chain Manager, for MA2 area. This is however not in a key role any more, since vendor managed inventory (VMI) model has just recently been dissolved for MA2 with them. Supply Chain Manager explained its role:

“Earlier its [rolling plan] significance was emphasized since the supplier had MA2 products that had so big volumes that based on it they planned their inventory, always based on what was expected, what kind of quantities we will order in different months.”

When the rolling plan was still more in use, continuous updating of rolling purchasing plan was really important, since typically sales campaigns, increasing the demand temporarily, were decided relatively close to the campaign.

In the new product development, target costing method can be considered to generically also belong to budgeting mechanisms. Target cost is used together with the supplier in the concept design phase, affecting e.g. how expensive materials can be used for the product or packaging. Different alternatives may occasionally be discussed with the Business Unit, meaning that the target cost is not necessarily strictly fixed.

As it was mentioned in the literature review, the usage of budgeting is not found extensively in the extant inter-firm research. The usage of purchasing budget with target costing found by Mouritsen, Hansen and Hansen (2001) is, however, somewhat similar to what was found in the studied case, in that both the features of total purchased amount and the target cost of a product are present in the budgeting.

The reasons for utilizing the budgeting mechanisms in the studied case are firstly to ensure that the supplier can meet the future capacity demands, and secondly to enable the practical target of shortening the lead times for deliveries. Finally, the usage of target costing in NPD is quite typical, since the design and the features of the product are usually planned for a certain customer group. As Product and Marketing Manager explained:

“If I have defined that I have certain target group to whom I want to sell this and for them the important things are this, this and this thing. And then the price point should be approximately this, this and this. Then he [designer] makes the design based on this information.”



### *Cybernetic controls / Performance measurements*

FinBu introduced a hybrid performance measurement mechanism, balanced scorecard (BSC), two months ago, which the sourcing managers will use with ‘strategic’ and ‘preferred’ suppliers for managing their performance. BSC measurements are done for products that are in mass manufacturing phase. The results are reported to the suppliers on a monthly basis, with comparative results from the other suppliers. A face-to-face review of the results is held quarterly with each suppliers, to discuss together how to improve certain designated areas. Sourcing Manager elaborated the process as follows:

“We call it balanced scorecard. Then we need input for monthly data in a new form. And then we go through this data in this form, and let them know which areas they did good job. And in which area they need to improve.”

Already before the BSC was introduced, sourcing managers held a face-to-face meeting twice per year with ChiSu, where they went through all material areas and ongoing projects, and gave feedback on quality and delivery related performance. The main change after introducing BSC is that the data to be reviewed is in a more structured format, and covers a larger number of topics.

There are four main areas in the BSC: price development, customer service, delivery, and quality and sustainability. Each area contains several key performance indicators (KPI) with different weightings, which measure the performance for a specific area. Thus with the help of the weights and the KPIs, a performance value is derived for each of the four areas. Price development is targeted for continuous cost reductions, while in the customer service area one of the KPIs measures ChiSu’s feedback time to FinBu’s requests. For the delivery area, there are e.g. KPIs measuring lead time and on-time delivery, and for quality area KPIs measure e.g. the score for the quality management audit and pre-shipment inspection pass rate. Material Area Manager for MA1 explains the measurements:

“... we review with ChiSu for the lead time. How well they ship the purchase order. We also review with ChiSu the productivity, basically cost reductions, to existing products. We also monitor their PSI [preselection indicator] pass rate, so before the products leave the factory, they have to go through defect check.”

Material Area Manager for MA2 also elaborated this area:

“There are usually several elements within each metric which then build up the score. For example quality score, or delivery score, or... They don’t all have the same weightings. It is called Balanced Scorecard.”

It is noted that performance targets may differ between material areas, since they use different materials, and there are also different legal and customer requirements in European and US markets. Furthermore, for a certain KPI within a specific material area, there may be both standard requirements used for all projects, as well as project specific requirements.

The key part of cybernetic control is also to modify the measured activities so that the performance targets will be met in the future. FinBu has included some more official mechanisms to the contract with the supplier, in order to ensure that the performance improvement takes place in specific areas. For the code of conduct audit, which deals with social responsibility and environmental issues, FinBu has defined a consequence staircase for all suppliers. Quality and Sustainability Manager describes this:

“If there are deviations related to, we have so called critical issues...They are called like zero-tolerance issues. If they have deviations and they cannot close them within certain defined time period, then we can give them like a business consequence. E.g. we stop developing new products with the supplier. And the next step is that the purchase volumes are reduced.”

These findings are in line with the suggestion from Anderson and Dekker (2009b) in that hybrid performance measurements may suit quite well in inter-firm situations. Furthermore, the non-financial metrics that were mentioned to be part of the used BSC in the studied case are similar to those found in the extant research in inter-firm settings, like delivery time (Chua & Mahama 2007; Free 2008) and evaluating whether development programs meet the agreed targets (Dekker 2004; Seal et al. 1999) in the form of the score for the quality management audit.

The reason why FinBu introduced BSC was to enable better monitoring and controlling of the costs of managing the relationship with a supplier. This rationale matches with the statement from Anderson et al. (2014) that cybernetic control will mitigate the performance risk in an alliance. The other reason in the studied case for introducing BSC was to make the management of the collaboration more systematic and aligned across several suppliers. Sourcing Manager explained the idea as follows: ‘I think now when we defined this tool, this balanced scorecard, all are done, somehow here, is aligned with.’ This kind of rationale was not found to be mentioned in the extant research for cybernetic control mechanisms.

### *Reward and compensation*

There are no rewarding mechanisms agreed between the FinBu and ChiSu to ensure fair share of benefits, in case the supplier would for example make an invention that would increase manufacturing productivity. Material Area Manager for MA2 commented: ‘Somehow it feels that the deepness of the collaboration is not sufficient that we could openly discuss these kind of things’. In MA1 area the collaboration is deeper, but these kind of mechanisms were not used there either.

For more generic area of rewarding, there are no explicit mechanisms existing either. Generically it was said that if ChiSu has done a good job in the previous new product development project, they may be given new projects also in the future, but there is no official procedure or mechanisms for this kind of rewarding. Material Area Manager for MA2 described this as follows:

“It [rewarding mechanism] is not usually communicated... Well, it is quite often in this kind of... when things are bought and sold then it is quite basic thing to understand that if you don’t operate or act like it is desired then business is not obtained... And if things are well, then business is given... But it is new orders and new projects is the kind of reward that they get for their business.”

There is also mechanism used in MA1, not strictly related to rewarding, but rather some kind of compensation at a relational level, in which FinBu provides justification for ChiSu, if and why they were not allocated with a new project, despite whether ChiSu was participating the quotation phase or not. Since ChiSu knows the FinBu’s annual NPD plan, then if they don’t get the project, they know that the project was given to some other supplier. Material Area Manager for MA1 elaborated this procedure as follows:

“Then we have to justify why we arrived to that different conclusion. So collaboration means that all products we are manufacturing, we also need to give the rationale why not offering them a new business as well. We can talk about some of their efficiencies. So we have to focus on business so that we don’t reward them. But we need to help them to open the reasons.”

Providing the justification for the supplier selection has been found to strengthen the relationship, since it encourages the supplier to control their product costs and to be on top of the latest technology.

Even though it was described above that there has been no explicit or formal rewarding mechanism in the form of allocating new business for the suppliers, internally FinBu has categorized the suppliers into four statuses: ‘strategic’, ‘preferred’, ‘approved’, and ‘exit’, mirroring the performance and importance of the supplier for the company. Here the ‘exit’

status means that it has been decided that the partnership with the supplier will be ended. ChiSu has been defined to be 'strategic' for MA1, and 'approved' for MA2 and MA3, and as described already in the context analysis section, actually MA2 material area will move soon to 'exit' status.

FinBu's plan is that in the future each supplier would know their own status, but it has not yet been communicated to them. It needs to be first decided to which suppliers the status will be told and when, since there may be also drawbacks in informing it. Material Area Manager for MA2 explained this: 'then on the other hand, if they know that they are preferred, and it is told to them openly, then they may think that we are doing already quite well'. That could lead them to increase the purchase price or reduce their efforts to improve the performance, since they could consider their status to be already at a good level. So the communication has to be done with care at the right time. On the other hand, those suppliers who are invited to the supply day, know that they are among the top suppliers, because they have got the invitation.

It has been also tentatively planned at the FinBu, that in the executive meetings some kind of scenarios for rewarding with new business could be discussed with the supplier. That would be done by showing how the purchase spend has developed with that supplier in the course of time, and by looking at some possible scenarios for the future, showing e.g. that if everything works well, and the quality level meets the defined requirements, then there is potential for certain business scenarios in the future. In practice this would mean that a more official rewarding mechanism would be taken into use with the suppliers. Introducing this kind of mechanism is, however, still postponed further in the future, since the executive meeting practice is currently just in the piloting phase with the suppliers.

These findings show that the control mechanisms found in the studied case differ from extant research in that there is no mechanism introduced for ensuring fair sharing of the benefits from any improvement activities, even though this has been emphasized to be the most important rewarding mechanism in an inter-firm setting (Seal et al. 1999; Möller & Rajala 2007). In the more generic area of rewarding, there was implicit rewarding in the form of including the supplier to the quotation process and thus giving them the possibility to get new business. The criteria for this kind of implicit rewarding mechanism was similar that is found in the extant research in that it is based on either performance

measurements or complying with the norms (Dyer & Singh 1998). In the studied case there was also ranking of the suppliers, but the type of the rewarding mechanism was not tied to the rank, which is mentioned to be one possibility by Gietzmann (1996) and Cooper and Slagmulder (2004). The relational compensation by providing justification for not giving new projects to the supplier was a mechanism not found from extant research.

The reason for not having any mechanisms for fair benefit sharing was said to be that there is not enough trust to enable that kind of open information sharing. This rationale is somewhat in contradiction with the statement from Dyer and Singh (1998) that rewarding mechanisms may in fact encourage transparency and reciprocal behavior, thus contributing to trust development. The implicit rewarding, in turn, by giving more business if the supplier performs well and complies with the norms, was seen to be a rather basic thing in buyer-supplier relationships. On the other hand, since the criteria for allocating this kind of implicit reward was mentioned to be performance, in that sense the rationale is in line with the argument from Gietzmann (1996), in that the purpose of rewarding may be to motivate the supplier to introduce performance improvements.

#### *Administrative control/Governance structure*

FinBu has just a few months ago defined three-level meeting practices for managing the relationships with its suppliers, which can then be considered to represent a form of a governance structure also between FinBu and ChiSu. The three levels consist of a supplier day, an executive meeting and a business review, the organizers of which are Vice President, Global Sourcing, Material Area Manager and Sourcing Manager, respectively, at the FinBu side. The corresponding representatives at ChiSu side for these three levels are the owners of the company, and the counterparts of Material Area Manager and Sourcing Manager, respectively. The supplier day is organized for presenting the strategy of FinBu to the 'strategic' suppliers once per year, while the goal of the executive meeting is to agree individually with each of those suppliers how to further develop the collaboration. The business review meeting is held quarterly with 'strategic' and 'preferred' suppliers, with the goal to review the supplier's performance and agree any needed corrective actions.

Material Area Manager for MA1 described the governance as follows:

“We have this kind of meeting practices, which comprises of meetings at different levels... Supply day with strategic suppliers once per year, where there are usually the owners of the companies... Under that then executive meeting... And then we have business review practices...And this is actually the model then how the collaboration is managed, so to speak, in a systematic way.”

This finding is in line with the remark from Dyer and Singh (1998) that if there is not a separate organization structure introduced for decision making within the alliance, then the decision making needs to be incorporated into the processes. The reason for having this kind of governance structure in the studied case, as mentioned above, is to handle things in the collaboration in more systematic way. This kind of argument for the governance was not found in the extant research.

#### *Administrative control/Organization structure*

The organization structure of the supplier is considered to be a major source of complexity in the collaboration with ChiSu, since all the communication to the factory people has to go through their sales office. On the other hand, it is not really possible to influence that from the buyer's side. As Material Area Specialist put it, ‘it is not really possible to tell to the supplier that they should implement a matrix organization instead of the current structure’. The key thing what one interviewee emphasized in managing the challenges of the organization structure, is at least to ensure that the FinBu has the correct contacts from the supplier's side, from the point of view that it is known who in the ChiSu's side needs the information for different things. And then, even though the communication goes through the sales office, ensure that the correct people will get the needed information. This finding is in line with the statement from Anderson et al. (2014) that at least the decision rights and responsibilities need to be defined in an inter-firm setting.

#### *Administrative control/Policies and Procedures*

The policies and procedures in the collaboration with ChiSu consist of quotation process, standards related to new product development (NPD) projects and policies and procedures related to purchase order placements, audits and shipment inspections. The quotation process always precedes a new NPD project, thus a new project is never automatically given to an existing supplier. The request for quotation contains annual volumes, quality levels, product figures and raw material requirements, and is sent to a

limited number of suppliers selected for the quotation phase. When the actual NPD project is initiated with the selected supplier, there are certain standards defined how the supplier needs to conduct the product development. Purchase orders, in turn, are sent by mail, and a purchase order confirmation is expected to be obtained from the supplier within a couple of days.

The quality management and code of conducts audits, along with inspections of shipments, constitute the most formal type of policies and procedures in the collaboration with ChiSu. Material Area Specialist elaborated the code of conduct audits:

“We have social audits so that we are sure that the supplier does not use child labor. There are really strict requirements how much employees can work. That there are days off... And it is ensured that everything is in order in the work environment.”

Quality and Sustainability Manager explained the quality management audits:

“There is some kind of problem in a certain product or product group, and then we try to solve it that what is the cause of it. This kind of investigation, and what is the corrective action plan. And then the supplier’s operative improvements are surveyed with this quality management system audit, thus we audit their way of working.”

Quality inspection, in turn, is conducted for each and every shipment before it leaves from the factory. The supplier has to book the time for the inspection, by informing when the shipment is ready, after which the quality inspectors will come to conduct their examination.

When asked about whether any official cost control methods are in use between the buyer and the supplier, like open book accounting, value chain analysis or similar methods, Controller, Global Supply Chain commented:

“These [cost] issues should be actually looked at in more detail...We get some cost break down from suppliers, so that we get the supplier to promise some price...But it does not really enable a very deep analysis.”

One reason for the lack of more detailed cost control implementation, is that the emphasis in the supplier selection has mainly been to ensure that the selected supplier has the capabilities to manufacture properly the products. Material Area Manager for MA1 also commented that the cost accounting in China still differs a lot from Western countries:

“I’m sure you are aware that in traditional European and American cost accounting there’s very detailed bills of material and engineering is pretty well accounted for. But in most Chinese factories, it’s more...it’s not as rigid. So even though we can get costs of bill of material, there’s still pretty large areas there as well for which are not [included] in the factories into their input.”

Thus Chinese suppliers are able to show bill of material data quite well, but they are lacking the knowledge on other cost drivers. Therefore the benefit of obtaining cost breakdown information or implementing more detailed cost control methods was considered limited by FinBu.

These findings are in line with the findings by Dekker (2004) and Anderson (2014) that formal procedures and policies may consist of quality auditing and periodic progress reviews. As described above, there is, however, not any cost control methods in use, even those have received a lot of attention in extant inter-firm research. The procedures related to quotation were not listed in the literature review, mainly because supplier selection and later management of the collaboration are quite often covered in separate studies, and the main focus of this study was selected to be the management phase of the collaboration.

The rationale for utilizing quality and code of conduct audits are that FinBu sells products in consumer markets. For the consumer products in question there are certain legal requirements for quality, in addition to the consumer specific requirements. The reason why the social and environmental responsibility area is in such a key role in general, is that customers nowadays require ethically produced products. The reasons why cost control methods are not utilized, in turn, seem to match with the potential reasons mentioned in extant research. E.g. Kajüter and Kulmala (2005) state that introducing open book accounting may not work out due to the suppliers not having proper cost accounting systems for it.

### *Cultural control*

The concept of cultural control was not very familiar for the interviewees. When asked about the existence of cultural controls, most of the interviews commented, that probably the key cultural control in the supplier collaboration is carried out by the sourcing office, through understanding the local culture, and how things can be moved forward with the supplier. It was perceived to be quite difficult to understand the Chinese culture and way of thinking by the interviewees from Finland and US. Some specific examples between differences between Finnish and Chinese culture were also given. NPD Project Manager commented:

“If we are talking about a Chinese, Finnish or Americans, people have different approach to things. Like Finnish way the direct way, the Chinese say let’s do this and that.”



Quality and Sustainability Manager elaborated her view:

“Chinese people are very cautious, they open up very slowly, actually. So even though it looks like that they are open and friendly and hospitable, but actually they keep quite a lot of information to themselves. And of course the local people understand that culture much better than the foreigners who just visit there shortly.”

Thus the ability of Sourcing Managers to interact with the supplier was considered to be a key capability, improving the possibilities to have a good collaboration with them.

Finnish and US employees can naturally also participate in the collaboration with ChiSu, since Sourcing Managers act as translators towards and from the supplier. In this role, Sourcing Managers need to understand the cultural aspects embedded in communication, and ensure that communication is clearly understood and translated back, both to and from Finland and US. There has been cases where things have not been clearly understood at either FinBu or ChiSu side, due to cultural or other reasons. So sourcing office is in the key role to ensure correct communication. Naturally it helps also the employees in Finland and US to do their work, the more they understand the Chinese way of approaching things. This understanding is increased by visiting the supplier’s office and discussing with them face to face from time to time.

In the descriptions how the collaboration is managed, there were also other cultural controls present, even though the interviewees did not necessarily realize them to belong to cultural controls. Especially new product development utilize cultural controls in the form of creating the expectation of mutual reciprocity. In practice this is accomplished by organizing discussions between FinBu and ChiSu in order to align the understandings of the requirements for the product, packaging, materials and related manufacturing processes, since these all depend on each other. Material Area Manager for MA1 described this as follows:

“We run into issues from time to time in product development work, with the design from the technical standpoint and then the manufacturability are not that feasible. So from time to time, they will give the design back...We either do it or we enter into a conversation on what do we need to change for...”

The discussions are typically held by organizing weekly meetings through Lync, where NPD Project Manager, Sourcing Manager, ChiSu’s Account Manager and ChiSu’s factory engineers discuss and agree things together. Product and Marketing Manager also elaborated the need to align the targets during NPD:

“The supplier may give suggestions that... we have seen that if we make this kind of change then it would work better. Or for packaging, if we would use a bit different material than you had planned, then we could save in costs.”

For MA1 material area FinBu also sometimes receives a cost breakdown for selected products, after which FinBu organizes a meeting together with ChiSu’s engineers to discuss and brainstorm about possible cost reductions from manufacturing point of view. Material Area Manager for MA1 elaborated this as follows: ‘So we get cost breakdown for certain key products... And then we invite their engineering staff to talk about any specific bottom-line manufacturing as well.’ There can be collaboration and helping each other in the area of cost reduction also by other means. Because ChiSu purchases different volumes of raw materials, the prices of which depend on the volumes, FinBu also tracks the prices, and provide this information to ChiSu, along with suggestions, which vendors are recommended and for which volumes. In all these examples the key element is the creation of mutual reciprocity that is facilitated by interactive discussions and participatory decision making.

Other cultural control mechanisms utilized in the collaboration with ChiSu consist of aligning the interests between the parties and utilizing joint dispute resolution. The new three level meeting practice, consisting of supply day, executive meeting and business reviews, is established for the purpose of developing the relationship with the strategic suppliers and aligning the interests between the partners. Material Area Manager for MA2 explained it:

“The idea is to find a kind of common tone...Our firm has anyway the goal that we do collaboration that is based on long term co-operation rather than individual [supplier projects].”

Joint dispute resolution, in turn, is present both in the work handled by the quality team through the various audits and inspections, as well as in the business review meetings organized by Sourcing Managers. Quality and Sustainability Manager explained:

“Since we are local, so that we as a quality team have very different visibility there because we are every week at the supplier and we know what is going on there. And we can discuss all the problems and so.”

Thus since the quality team interacts with the supplier almost daily with regards to the product shipment inspections, the frequent contact makes it possible to discuss all the issues in more detail in a face to face manner. The business review meetings, organized for going through both improvements and problems in the performance, are similarly

organized as face-to-face meetings, which enable FinBu and ChiSu together discuss and agree how to solve the problematic areas.

Several interviewees commented that building trust is important, even though the process related thinking often dominates. Material Area Specialist explained:

“I think that this is very much about building the trust and there are situations where the trust is really tested. And then it has to be assessed whether we stand strictly behind the contract or whether we meet them half way and try to find the least bad solution for everybody.”

It was commented, that as a buyer it does not really pay off in a long term basis to give orders to the supplier, and utilize a strict arm's length relationship. The mindset should instead be that what is the supplier's benefit is also the buyer's benefit.

Earlier the sourcing office also organized ceremonies for the supplier and gave them a certificate if the supplier's performance was improved in a certain area. It could have been that there was still room for further performance improvement, but the ceremonies were still held to recognize that an improvement step was taken. These procedures have, however, not been in use in the recent years.

These findings are in line with the extant research in that there were cultural controls used in the form of establishing mutual interests and creating the expectation of mutual reciprocity (Das & Teng 2001; Zajac & Olsen 1993), participatory decision making (Das & Teng 2001; Dekker 2004) and ceremonies (Das & Teng 2001). In addition, in the studied case there are communication channels through several functions - Material Area Managers, NPD Project Manager, Sourcing Managers and Quality and Sustainability Manager – which has been argued to act as a mechanism to support a cooperative culture (Seal et al. 1999). One difference compared to the extant research was that understanding the culture of the country where the supplier is located, was emphasized to be a very important cultural control method. This was not found in any of the extant research papers studied in the literature review, perhaps mainly because they were not specifically belonging to international business research discipline.

The rationale why the selected cultural control mechanisms has been in use in the studied case is mainly the NPD process, which is key part of the collaboration between FinBu and ChiSu. The NPD process is inherently requiring a lot of aligning the objectives before the work can proceed at both sides. This was also shown in the section where task

interdependency was analyzed, where it was defined that NPD means reciprocal interdependency, since both parties need information from each other so that they can make decisions and continue with their work. The information sharing and participatory decision making, being the key mechanisms in cultural controls, are thus inherently present in NPD. Understanding the culture of the supplier's country in turn, is required in order to make sure that there is no misunderstanding in the communication. It is thus seen a prerequisite for efficient and effective collaboration.

Building the trust was also mentioned to be important by the interviewees, since it was seen that both sides will benefit from it, like it was mentioned above. On the other hand, throughout this section where the detailed control mechanisms have been analyzed, it is quite visible that the trust level is somewhat higher in MA1 than in MA2 area. E.g. the reason why fair share of benefits, in the reward and compensation section, was not used, was mentioned to be lack of trust especially in MA2 area. In MA1 area there is evidence of higher trust level through more open information sharing in several areas. It could thus be argued that the difference in the trust level could be related to the arguments from Tomkins (2001), who describes that there are two types of information needed to be exchanged in an inter-firm relationship. Type 1 is needed for developing the trust, while type 2 is required for mastering the events. It seems that type 1 information has not been sufficiently exchanged in MA2 area, in order to develop the trust to the level that type 2 information could be exchanged freely. Type 2 information would represent here the information needed to implement e.g. the fair share of the benefits.

The reason for the current situation could be that for MA2 material area there has not been any product development projects between FinBu and ChiSu for several years, so an appropriate forum has not existed to exchange the type 1 information, and thus the goodwill trust has not developed further. As a comparison, in MA1 area, type 1 information is continuously provided to ChiSu by openly explaining why the supplier was not chosen for a certain NPD project, thus further developing the trust level between the parties. In MA1 there is also type 2 information exchanged quite a lot, since FinBu provides annual NPD plan to ChiSu, and ChiSu provides valuable information to FinBu on technologies and FinBu's competitors. In fact, one reason why trust building is so clearly present in MA2 area could be the fact that the purpose of the relationship in MA2 area is not only co-specialization, but also learning and internalization.

*Most important control mechanisms in this collaboration*

The views on the most important control mechanisms for managing the collaboration with ChiSu varied somewhat depending on the role of the respondent. The views from the interviewees who provided answers to this topic and were directly involved in the collaboration are provided below.

Material Area Manager for MA1 had the view that the most important control mechanisms managing the relationship with ChiSu are cybernetic control:

“Ultimately we are a consumer products company, so we have to deliver quality products at the right price, at the right time to the consumer. And with that block [cybernetic control] I believe we can control our costs, our quality and our delivery.”

Material Area Manager for MA2 stated that all of the control mechanisms included in the MCS package are needed for managing the collaboration with ChiSu, and thus did not select any one of them to be the most important. He added that the controls having the biggest emphasis in his own role are long term planning and collaboration, which mean developing the trust with the supplier and ensuring that the basis for good collaboration is in place. When asked about if either one would be more important, administrative or cultural controls, he didn't select clearly one or the other, but instead formulated:

“I would say it is more to the direction of administrative control, so that the collaboration should be made more systematic, so that it is more predictable. And in that way more systematic... So that we know that in February there is again time to hold a business review, and there are certain things that need to be prepared for it in advance. So that things can be done efficiently, and the time can be utilized beneficially.

Material Area Manager for MA3 had the opinion that the most important control mechanisms in this relationship are administrative control, like procedures and policies, and cultural control. Additionally he thought that the performance measurements could be in a more important role in the future, after the BSC review process is fully established. He commented as follows on performance measurements and BSC:

“If there's a continued exposure and we will gradually understand how that will drive the relationship and changes with our vendors. I think that'll become more important... but at this point it's more on the administrative piece and the cultural piece, the relationship and, you know, the face-to-face meetings that are done, that will drive the relationship more than anything at this point.”

Material Area Specialist had the view that the key mechanisms for managing the collaboration with ChiSu are planning and cultural controls, although the current situation with the supplier has to be taken into account. The quality level of ChiSu is quite high,

since they are able to do premium products. ChiSu has also other customers, and thus FinBu is not always prioritized by them. This among other reasons has caused FinBu to move quite a lot of business away from ChiSu, which does not necessarily contribute so positively to the collaboration. Material Area Specialist formulated as follows:

“Well there needs to be also monitoring of quality, on-time delivery... We have tried also the rewarding mechanisms in some way, the outcomes of that is not maybe fully known... And for all the suppliers we have the social audits. So they are all included. What is the weighting of these mechanisms really varies per supplier. With some suppliers the emphasis may be more e.g. on the cultural side. And it may also vary between different years for the supplier.”

The opinion of Sourcing Manager for MA2 material area was that the collaboration together, and the performance measurements are the most important control mechanisms in the collaboration with ChiSu. He commented as follows:

“I think we need to share the areas and to work with them. And maybe we have to work with them to develop some project improvements.”

Quality and Sustainability Manager stated that the basic thing is to have the policies and the procedures in place. In addition to that she considered performance measurements to be important. She explained her view as follows:

“Even if you wouldn’t have the organization in that country, then at least you need to ask from the supplier to have some kind of contract how the supplier has to operate... And then these audits and these kinds. And then of course the scorecards and these with which we measure their capability. Like for our business it is important how the price level or quality level or on-time delivery... those are really vital.”

NPD Project Manager’s view was that the most important control mechanisms are performance measurements and administrative control, along with the legal agreements, since those will ensure that the performance requirements are met. Additionally, he viewed that cultural controls are important, since usually different nationalities have different approach to things, and thus there is a need to learn between the companies what kind of approaches are typical in each country. As NPD Project Manager formulated:

“If you have buying power, you can say whatever you want. But basically, from my point of view, I think we need to work together. The company has then more purpose and value”.

Thus as a summary, it seems that most of the detailed control mechanisms are seen needed in the collaboration, even though different actors may prioritize them a bit differently.

#### 4.2.4 Comparison of the analysis with the three frameworks

If the analysis with the three theoretical frameworks is compared to each other, it can be concluded that there are similarities in the findings between the high level frameworks, coordination mechanisms from Bartlett and Ghoshal (2002) and control taxonomies, in that it depends on whether the whole relationship is looked at or only its subareas, how large portfolio of coordination or control mechanisms are in use. Somewhat similar finding can be derived with the framework of the detailed control mechanisms. If the relationship between FinBu and ChiSu is looked at a whole, practically all of the detailed control mechanisms from inter-firm MCS package were in use. But then, if the relationship is divided into two distinct activities of new product development (NPD) and manufacturing of existing products, differences emerge in the used control mechanisms. For NPD the main control mechanisms in use are short-term planning, budgeting in the form of target costing, implicit rewarding and cultural control through information sharing, establishing mutual interests and participatory decision making. Manufacturing of existing products, on the other hand, utilizes mainly short-term planning for improvement projects, budgeting in the form of rolling purchase plan, hybrid performance measurements through BSC and policies and procedures in the form of audits and inspections. In addition to these, for the whole relationship, there were governance structure and long term planning, which cannot be said to belong only to either NPD or manufacturing of existing products.

Another relevant area of comparison is whether the findings from these three frameworks can contribute to each other in order to further develop the theories. One topic that raises from the control typologies framework is the market control, which is missing from the inter-firm MCS package. As discussed in the literature review section, the most typical control mechanism in market control pattern is price, and it was indeed a visible control mechanism also in the studied case. The price is one of the supplier selection criteria in the quotation process, and it is also one key parameter in the later phase that is monitored with the balanced scorecard. In addition to price, there were various other supplier selection criteria in use.

Material Area Specialist described the quotation process:

“We do this kind of request for quotation, which contains then volumes, annual volumes, and then of course quality levels, and there are figures and there are raw material requirements and then it is made and sent to certain suppliers that are included in that phase...And when we get the data ...then we make that kind of ... that this is good at this and this... So that there are several issues and it has to be done also per product that what is the priority order for things.”

Controller, Global Supply Chain also commented that it is often the capabilities of the supplier that may be more important than the price in the supplier selection.

Thus in order to reflect these findings from the analysis with the control typologies, it could be argued that the inter-firm MCS package is not complete if the market control is not reflected in it. Therefore it is proposed that the inter-firm MCS package is extended by including a separate section into it for market controls: price and non-financial criteria for supplier selection. The proposed inter-firm MCS package, extended with market controls, is presented in Figure 8.

<b>Market Controls</b>						
Price			Non-Financial Supplier Selection Criteria			
<b>Cultural controls</b>						
Clans		Values			Symbols	
<b>Planning</b>		<b>Cybernetic Controls</b>				<b>Reward and Compensation</b>
Long range planning	Action planning	Budgets	Financial Measurement Systems	Non Financial Measurement Systems	Hybrid Measurement Systems	
<b>Administrative controls</b>						
Governance Structure		Organization Structure			Policies and Procedures	

Figure 8. Extended MCS package for inter-firm settings, constructed by using Malmi and Brown (2008) as a basis.



## 5. CONCLUSIONS

This study has examined a buyer-supplier collaboration from the buyer's point of view, in terms of what kind of coordination and control mechanisms are used for managing it and why. The purpose of this final chapter is to summarize the key findings and conclude on one hand, what kind of theoretical contribution can be derived from the findings, and on the other hand what kind of managerial implications can be drawn from them. Furthermore, the limitations of this study are described, and finally the avenues for future research are discussed.

### 5.1 Key findings and theoretical contribution

The aim of this thesis was to study how a partnership between two firms is managed, more specifically a buyer-supplier relationship, and why. This objective was selected due to an interest to the contemporary business landscape, where various kinds of alliances and partnerships between different firms are increasingly common, and thus the understanding of how inter-firm relationships are or should be managed is a key knowledge and capability in today's business world.

The selected phenomenon, management of a supplier collaboration, has been analyzed from the buyer's point of view by using three theoretical frameworks: coordination mechanisms from Bartlett and Ghoshal (2002), higher level control typologies, and detailed control mechanisms with the help of a constructed inter-firm MCS package based on Malmi and Brown (2008). It can be concluded that there was a clear benefit by using several theoretical frameworks in this study, since they supported each other in distinguishing the findings.

There are three main findings related to the first part of the research question: *what kind of coordination and control mechanisms are used for managing a supplier collaboration?* Firstly, after having analyzed the studied case holistically with the constructed inter-firm MCS package, it can be concluded that practically all of the control mechanisms included in the package were found to be in use; the only missing mechanism was rewarding for fair share of the benefits. This is clearly a new type of finding, since the inter-firm MCS package has not been used earlier for analyzing an inter-firm relationship.

Secondly, it was discovered that the fact whether the relationship is looked at as a whole or only some subareas of the relationship like certain distinct activities, will affect how large portfolio of control and coordination mechanisms is found to be in use. Thus it has a significance at what level the management of the collaboration is analyzed. In the overall level of the studied relationship, all of the coordination mechanisms, control patterns and control mechanisms were in use, but not at the subarea level of distinct activities.

Thirdly, based on the findings showing that all control typologies may be present simultaneously for managing an inter-firm collaboration, it is suggested to extend the inter-firm MCS package constructed based on the model from Malmi and Brown (2008) by adding market control into it, in order to better enable its applicability in inter-firm settings. With that modification the detailed level inter-firm MCS package will then contain elements from all of the three control patterns: hierarchical, market and relationship control.

For the second part of the research question, *why these specific control mechanisms are in use in the studied relationship*, similar reasons were found for the detailed areas as what are discussed in the extant research within all of the three theoretical frameworks. The reason for having such a large portfolio of the control mechanisms present in the overall relationship, in turn, is described most logically by Van der Meer-Kooistra and Scapens (2008). According to them, it is quite likely that an inter-firm relationship involving interdependency, complexity and continuous change contain control mechanisms from all of the three control patterns, hierarchy, market and relationship patterns, since in inter-firm relationship there is typically a need to balance between several paradoxes, e.g. flexibility and standardization and co-operation and competition. The findings from this study validate and support these arguments from Van der Meer-Kooistra and Scapens (2008). Finally, if the reasons for having a different portfolio of control mechanisms for different subareas of the relationships is looked at, the conclusion can be drawn that the main reason for that is the different characteristics of the subareas.

## **5.2 Managerial implications**

The results of this study may be relevant also for managerial purposes. The managers responsible for managing a collaboration with another firm may want to divide the collaboration into certain distinct activities, and then assess what the most appropriate combination of control and coordination mechanisms would be for each activity, taking into account the possible trade-offs between costs and efficacy. On the other hand, the detailed control mechanisms should be designed in such a way that they support each other in a favorable way. Thus the detailed control mechanisms should not be designed isolated from each other, as pointed out by Malmi and Brown (2008).

Furthermore, the managers designing the control and coordination mechanisms for a collaboration with another firm should assess whether there are some of the paradoxes present that Van Der Meer-Kooistra and Scapens (2008) have described to be typical for an inter-firm relationship: need for simultaneous standardization and flexibility, or cooperation and competition. If the firm's goals for the collaboration contain these kind of paradoxes, it may be beneficial that the portfolio of the control mechanisms in the overall relationship contains elements from several control patterns: market, hierarchical and relationship pattern.

## **5.3 Limitations of the study**

The limitations of this study are first of all related to the chosen research methodology. The study consisted only of one qualitative case study, and although it was argued in the research methodology section that the benefit of one case study is that it can provide rich data on the studied phenomenon, it introduces still limitations to generalization of the results. Thus the results from this study cannot be generalized statistically to other cases.

Another limitation is caused from the fact that even though the focus of the study was a collaboration between two firms, only one side of the collaboration was interviewed, the Finnish MNC, which may lead to somewhat biased results. If the other side, the Chinese supplier, would have also been interviewed, they could have had quite different views on e.g. what works well and what are the main difficulties in this collaboration. They could have also mentioned some control mechanisms that are in use at their side of the collaboration, which were not revealed by interviewing only one side of the relationship.

Finally, there is always a risk of the researcher having biased views on the subject in some areas, even though the target, of course, is to conduct the research in a neutral manner (Scapens 1990). The original idea what to study, e.g. here to study the topic of control patterns in order to find out whether the collaboration contains several different patterns, may gear the researcher to emphasize her findings more in that topic area compared to some other findings. On the other hand, in this study the researcher did not have any earlier connections to the studied company, which helped to maintain the neutrality to a studied phenomenon.

#### **5.4 Avenues for future research**

This study provides several interesting ideas and opportunities for future research. First of all, since this study consisted of only one case study, it was already concluded above that the findings from this study cannot be generalized in a statistical sense into other cases. Thus one possible avenue for future research would be to conduct a similar study with a larger sample of companies, e.g. in a form of a survey. That would enable to analyze in a more statistical way, how the control and coordination mechanism are used in collaborations between two companies, both with regards to the two high level frameworks and the framework consisting of detailed control mechanisms. In the same surveys it could be also studied whether the inter-MCS package should be extended with some other detailed control mechanisms that were not present in the studied case.

Additionally, it would be recommended that some of the future research would take a more holistic approach and interview both sides of the collaboration for this kind of study. That would enable to obtain more reliable data, which is important especially in case any assessment of the performance of the control mechanisms would be done. In that kind of study it would be also possible to evaluate whether it is appropriate that most of the control mechanisms are defined by only one side of the partnership, or whether they should be planned and agreed together by both sides. One example is the usage of cybernetic controls in inter-firm setting, for which the question is often raised that should it measure only the performance of one partner, or rather the collaboration as a whole (Kraus & Lind 2007).

Another possible area for future research would consist of studying the linkage between the purpose of the partnership and the control and coordination mechanisms that are used for managing it. There are surprisingly little research made in that area in the management control research. The majority of the extant management control research limits the object of control to belong mainly to following categories: cooperation problem, appropriation problem or coordination problem, while putting less emphasis on what is the purpose of the alliance. As e.g. Doz and Hamel (1998) describe, the different purposes of alliances can be categorized into ‘co-option’, ‘co-specialization’ and ‘learning and internalization’. It would be interesting obtain more data on whether there are clear differences in the control and coordination mechanisms used in alliances targeted to ‘co-specialization’ or ‘learning and internalization’.

Finally, since the key problems in the studied collaboration were related to organization structure of the partner, as well as difficulty to understand the different national cultures, some of the future research could tackle these issues more deeply. It could be studied how common the problems imposed by the organizational structure of the partner are, and whether there are any possibilities to bypass these problems by introducing some specific coordinating or control mechanisms to the collaboration. Similarly, it could be studied whether there are any commonly recommended mechanisms which could facilitate finding a common ground in business operations between partners, despite the differences in their national cultures.

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## 7. APPENDICES

### Interview structure

#### Theme 1: Background information of the interviewee

- Title, working history, current job description

#### Theme 2: Background information of the supplier partnership in question

- History of the supplier partnership
- Current purpose of the supplier partnership from your firm's point of view

#### Theme 3: Characteristics of the supplier partnership

- Level of interdependency, change and complexity
- Amount of partner specific investments

#### Theme 4: Management of supplier collaboration

- Main mechanisms for managing the supplier collaboration
- Reasons for using these methods

#### Theme 5: Usage of management control systems

- Are management control systems used for managing the supplier collaboration?
- How are they used?
- Reasons for using these methods

#### Theme 6: Aspects related to global business

- Are the management mechanisms of supplier collaboration integrated globally, or are they defined locally?

#### Theme 7: Other issues