

How Do Suppliers React to a Customer's Supply Network Initiative?

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Abstract

The purpose of the paper is to describe, conceptualise and discuss how suppliers react to supply network initiatives taken by their customers. First, we review literature on supply network initiatives, as well as IMP literature on the issue of 'managing in' networks. In the review we pay particular attention to the supplier's view of its customers' supply network initiatives. Secondly, we report on a case study of a supply network initiative. In the case study, attention is paid to how three subcontractors react to the supply network initiative started by a main contractor within the construction industry. Based on the analysis and discussion, we suggest that subcontractors react to the initiative by trying to fit it into the subcontractors' wider business contexts, by 1) Continuing with ongoing processes which already support the focal initiative, 2) Intensifying or adjusting ongoing processes which already give some support to the focal initiative, 3) Withdrawing from or weakening ongoing processes which (may) undermine the focal initiative and 4) Starting up new processes which can support the focal initiative. Furthermore, the subcontractors employ the four processes of fitting the supply network initiative into the wider context on several management levels, e.g. the level of individual relationships, the level of various relationship (sub)portfolios, and on the level of the overall relationship portfolio. Finally, subcontractors may choose to also preserve a network context into which the focal initiative does not fit, thereby maintaining some variety in the principles according to which the firms operate and the customers they serve.

Keywords: supply networks, supplier relationships, management, supplier perspective, case

Introduction

Within the field of purchasing and supply management, and in particular the part which focuses on supplier relationships and networks, much attention has been paid to describing and conceptualising *supplier relationships* (e.g. Araujo, Dubois and Gadde 1999; Dubois, Gadde and Mattsson 2003; Frey and Schlosser 1993; Gadde and Snehota 2000; Kraljic 1983; Langfield-Smith and Greenwood 1998; Liliecreutz 1998; Lincoln, Ahjmadjian and Mason 1998; Lyons, Krachtenberg and Henke 1990; Packham, Thomas and Miller 2003; Stjärnström and Bengtsson 2004). These studies mainly focus on the perspective of the buyer but a few also address the perspective of the supplier in more or less detail.

Some efforts have also been made at addressing the topic of *supplier networks* (e.g. Andersen and Christensen 2005; Dubois and Gadde 2000; Dyer 2000; Dyer and Hatch 2004; Dyer and Nobeoka 2000; Gadde and Håkansson 1994, 2001; Harland 1996; Harland et al. 2001; Hines 1998; Holmen, Håkansson and Pedersen 2003; Håkansson and Persson 2004; Johnsen et al. 2000; Johnsen and Ford 2005; Knight and Harland 2005; Lamming 1993; Lamming et al. 2000; Mills, Schmitz and Frizelle 2004; Nobeoka, Dyer and Madhok 2002). However, there is still a dearth of studies which investigates in detail how companies manage supply networks and the challenges which 'managing of' and 'managing in' network pose on all of the involved firms.

So far, most of the research within the field of supply networks has focused on organisational aspects (e.g. the number of suppliers, the number of organisational levels/tiers, how the network develops over time etc.) from the perspective of the buyer (Dubois and Gadde 2000; Dyer and Nobeoka 2000; Gadde and Håkansson 1994; Harland 1996; Harland et al., 2004; Johnsen et al. 2000; Knight and Harland 2005; Lamming et al. 2000). This is hardly surprising given that supply networks directs our attention to purchasing issues and thereby the buyer. Much less attention has been paid to the suppliers' view on supply networks. Liliecreutz (1998, p. 73) claims that *"The literature that can be consulted today regarding suppliers' strategies focuses mainly on the buying company's opportunities to structure, rationalize and develop its supply base. However, few studies have been undertaken ... that focus on the supplier's view of the change."* We argue that that this to a large extent also is the case today. This view is seconded by Stjärnström and Bengtsson (2004, p. 137) who claim that *"one shortcoming, however, is that most of the literature is based on buyer perspective, while studies made from the supplier perspective are rather few"*. Furthermore, Johnsen and Ford (2005, p. 183) conclude that *"... little research to date has examined the consequences of supply network control on the suppliers that are in the receiving end of it"*. Thus, seldom are the suppliers viewed as actors with their own strategies and visions and, consequently, the alternative actions and possible relationships available to the suppliers are rarely discussed.

The purposes of the paper

The main purposes of this paper are to:

- Review literature on supply networks seen from both the buyer's and the suppliers' point of view, but with a specific focus on the supplier's view. This type of literature is combined with literature focusing on 'managing of'-'managing in' relationships and networks.
- Describe, conceptualise and discuss how suppliers react to supplier network initiatives taken by their customers, on the basis of a case study of three subcontractors who take part in a main contractor's supply network initiative.

In the next section, we review literature on supply networks seen from the buyer's, respectively the supplier's, perspective. Following this, we address the issue of 'managing in' networks within the IMP Perspective. Based on the case study from the construction industry, we then discuss the suppliers' views and (re)actions related to a main contractor's initiative at developing a supply network. Finally, we offer some conclusions and implications.

Theoretical basis

This paper is based on two streams of research. The first stream of research, which constitutes the main part of the theoretical base, is related to supply networks. The second stream of research is related to the issue of 'managing in' relationships and networks which is a quite new topic within the

IMP Perspective. In the following sections these two streams of research are presented and discussed.

Supply networks

This part of the theoretical basis presents and discusses literature on supply networks based on a literature review of both purchasing and 'non-purchasing' journals over the last two decades. Based on their comprehensive strategic review of supply network literature, Mills, Schmitz and Frizelle (2004) claim that supply network management is a rapidly expanding field with a fast growing amount of literature. The authors, in accordance with Lamming et al. (2000), discern between two streams of research which have influenced the development of the concept of supply network (Mills, Schmitz and Frizelle 2004, p. 1014):

- Largely descriptive research on industrial networks conducted by researchers from industrial marketing and purchasing (IMP)
- More prescriptive research on supply chain management based on research within the fields of strategic management, operations management and logistics

In this paper, we argue that the majority of the extant literature on supply networks can be placed in the second stream of research, especially if we also include both supply chain management and supply network management in this category. For a thorough discussion of supply chain versus supply network, see Håkansson and Persson (2004). Based on their extensive review (which mostly covers the second stream above) Mills, Schmitz and Frizelle (2004, p. 1018) propose a framework consisting of four perspectives to access, analyse and understand supply network management from a firm's point of view. These perspectives are:

1. Upstream: as purchaser dealing with suppliers
2. Downstream: as supplier dealing with customers
3. Static network: as auditor of its position in its supply network, typically comprising several supply chains
4. Dynamic network: as strategist, seeking opportunities to improve the firm's position in an existing network or when creating a new network

It is interesting to notice that even though these are four distinctive perspectives, three of them (i.e. the first, third and fourth perspective) primarily concern the buying firm's side while the second perspective focuses on the suppliers' view of being part of (multiple) supply chain(s) and supply networks. If we start with the three perspectives representing the buying firm, these are quite similar to the three important issues in supply network management which we have identified and discussed in an earlier article (see Holmen, Pedersen and Jansen 2006). This article is, in contrast to the article by Mills, Schmitz and Frizelle (2004), mainly based upon the first stream of research presented above, i.e. the IMP Perspective's view on industrial network. The three issues we discuss in that article are:

1. interconnected relationships, i.e. creating relationships among suppliers in the supply network (which also incorporate the nature of the relationships)
2. the structure of supply networks
3. the process of initiating, creating, managing and/or changing a supply network

In the following section we shall discuss the buyer's view of supply network. The discussion takes three of the perspectives identified by Mills, Schmitz and Frizelle (2004) as a starting point, but will also include issues from Holmen, Pedersen and Jansen (2006) and a lot of other authors under each of the three perspectives. Literature from both streams of research identified in the beginning of the paper will be used. In the next section we shall explore and discuss literature on the suppliers' view of supply network based on the second perspective by Mills, Schmitz and Frizelle (2004) and a quite new stream of research into how suppliers react to and manage in such supply network initiatives. Although the present paper focuses on the supplier's perspective, we include research on the perspective of the buyer since most of the literature on supply network management focuses on the perspective of the buyer.

The buyer's view of supply network

If we start with the perspective that Mills, Schmitz and Frizelle (2004) call '**upstream**', there are somewhat different issues that are covered by this perspective. The first issue primarily focuses on the **developing and managing buyer-supplier relationships**, i.e. relationships between the buying firm

and its different suppliers (in the supply network). This question of how to characterise relationships to single suppliers and how these relationships could be developed and managed have been the focus in a vast amount of literature (see e.g. Dwyer, Schurr and Oh 1987; Frazier, Spekman and O'Neal 1988; Gadde and Snehota 2000; Gadde and Håkansson 2001; Håkansson 1982; Lamming 1993; Lamming, Cousins and Notman 1996; Olsen and Ellram 1997). A second issue, which shifts the focus to another type of relationship is the **creation of relationships among suppliers** in the supply network. The importance of this issue is also discussed by Andersen and Christensen (2005, p. 1261) who claim that "...supply networks are characterized by sets of purposeful and connected exchange relationships", and by Håkansson and Persson (2004) who discuss different types of interdependencies in supply networks. In a similar vein Dubois and Gadde (2000) pinpoint that an important issue of supply networks is that collaboration not only takes place between a buyer and its suppliers, but also among the suppliers thus creating connected relationships. This is further supported by Dyer and Nobeoka (2000) focusing on the creation of 'strong ties among suppliers'. Thus, we see that both the relationships between the buyer and the supplier, and the relationships among the suppliers are important issues in the buyer's perspective of supply networks. We shall come back to different types of relationships to different types of actors when we turn to the suppliers' view of being part of supply networks.

The second perspective is what Mills, Schmitz and Frizelle (2004) call '**static network**'. The first issue which can be identified within this perspective is how to **delimit the supply network**. This issue is touched upon by many of the contributors within the field of supply network management. Harland et al. (2004, p. 2) consider how a supply network can be delimited in space and argue that "... we could examine the total supply network for a firm that could be represented by the set of upstream and downstream organizations it deals with, either directly or indirectly, from original source of raw material or service creation, to ultimate end customer. This would provide a map of all relationships within that firm's supply network". Håkansson and Persson (2004) also focus on this structural issue as they discuss interdependencies in supply network, inspired by Thompson's concepts of sequential, pooled and reciprocal interdependencies. They claim that one major issue in relation to supply networks is "... the fact that any focal organization is normally part of several supply chains, each of them representing different entities, which may or may not be in conflict as far as optimization and integration is concerned. This issue in fact is related to the exploitation of pooled interdependencies" (Håkansson and Persson 2004, p. 18). The second issue concerns the **position and role** a firm can have in a supply network (for a thorough discussion of the concept of role and the concept of position, see Anderson et al. 1998). This is an issue which has been discussed by several authors. For example Mills, Schmitz and Frizelle (2004) emphasise the firm's position in the network and how the position can be improved without changing the structure of the supply network. Furthermore, Knight and Harland (2005) discuss organisational roles in supply network management and, based on empirical research and the use of role theory, they identify six different roles that firms can have in supply networks. A third issue which is frequently debated within this perspective is different types of **classification of supply networks**. Lamming et al. (2000) observe that different aspects of the product being supplied have an impact on how a supply network should be classified. They propose a matrix of four distinct types of supply network, distinguishing between 1) innovative-unique products versus functional products and 2) degree of product complexity. Furthermore Harland et al. (2001) present another model for classifying supply networks based on two dimensions; 1) the degree of supply network dynamics and 2) the degree of focal firm supply network influence. Based on these two factors they construct a 2x2 matrix and discuss four supply network types. Thus, we may conclude that three somewhat related issues constitute the 'static network' perspective which focuses on delimitation, positions and roles, and classification of supply networks.

The third perspective, which Mills, Schmitz and Frizelle (2004) call '**dynamic network**', has become more prevalent in the most recent literature. This perspective is more difficult (than the two first ones) to divide into separate issues. Most of the literature within this perspective discusses the **process of initiating, creating, managing and/or changing a supply network**, but it is difficult to distinguish clearly between contributions focusing on only one or two of the issues. One example is Mills, Schmitz and Frizelle (2004) who divide 'the dynamic network perspective' into (a) the **evolution** of existing supply chains and networks and (b) the **creation** of new supply chains and network. In relation to (a) the authors discuss the different mechanisms by which supply networks may evolve, e.g. increased outsourcing, focus on core competences, rationalisation etc. In relation to (b) they concentrate on opportunities for construction of new supply networks. Another stream of research which has discussed both **creation and management** of supply networks has paid particular attention to

knowledge management processes in Toyota's supply network(s) (see e.g. Dyer 2000; Dyer and Nobeoka 2000). Their research focuses on the evolution of the network in three phases. First, the development of weak ties between the buyer and the different suppliers in the network. Second, the development of strong ties between the buyer and the suppliers, where Toyota transfers know-how of, for example, production technologies. Third, the development of strong ties among the suppliers, enabling the suppliers to create sub-networks within the full network to maximise the willingness to share information and knowledge. In a similar vein, other researchers have focused on (a) the **creation and operation** of supply networks and (b) **strategies** related to how to manage these supply networks over time (see e.g. Harland 1996; Harland et al. 2004; Johnsen et al. 2000). Lastly, a more logistics-oriented approach is taken by Hines, Rich and Esain (1998) who present and discuss a lean logistics approach to **designing** a programme to develop a supply network. Romano (2003) also takes a logistical point of departure and discusses co-ordination and integration mechanisms to **manage** logistics processes across supply networks.

Based on literature review above we may conclude that there has been a development from focusing mainly on the buyer-supplier relationships in supply network in a static way to discussing different types of relationships (e.g. the relationships among participating suppliers), different ways of classifying supply networks, and relating these issues to strategies for managing the supply network. In all the literature reviewed thus far, the buying firm's view has been dominating one. We shall return to some of these issues in the next section where we move the scope of our enquiry to the suppliers' view of supply networks.

The suppliers' view of supply network

We now turn to our attention to the second perspective of supply network management presented by Mills, Schmitz and Frizelle (2004) above, i.e. the perspective called '**upstream**'. In a similar manner as earlier in the paper we base the review on different streams of research.

Articles discussing supply networks have mostly focused on how a buying firm may initiate, manage and organise networks among (its most important) suppliers, and as mentioned earlier, surprisingly few have taken the suppliers' interests and views into account. We have reviewed articles which primarily fall into two categories: 1) Contributions which have looked at both the buyer's and the suppliers' side in supply chains and networks (see e.g. MacDuffie and Helper 1997), and 2) Contribution which have primarily taken the suppliers' perspective on supply chains and networks (see e.g. Andersen and Christensen 2005; Mills, Schmitz and Frizelle 2004; Stjernström and Bengtsson 2004). In the following we look more specifically into some of the contributions focusing entirely on the suppliers' view of supply networks. It is worth noticing that a theme that receives more attention in articles presenting the suppliers' view (than the buyer's view) is the suppliers' problems related to partaking in such supply networks, and the lack of benefits for the suppliers. Such issues are discussed e.g. by Peckham, Thomas and Miller (2003) studying the subcontractor's view of partnering in construction industry and Johansen and Ford (2005) studying a first tier supplier's view of a customer's supply network intervention in the automotive industry. In the following, we focus on other, more positive issues related to the suppliers' perspective on been part of supply networks.

With so few articles in this field, we have found none trying to structure the field of research or classifying different issues or perspectives. Therefore, we shall go back to some of the issues we discussed in relation to the buyer's perspective of supply networks and try to 'convert' some of them into issues relevant from the suppliers' perspective. The first issue we shall look into is with whom the suppliers have relationships both within and outside the supply network initiative. The second issue is related to suppliers' strategies both for internalising ideas from the supply network initiative as well as for using the ideas in relation to other parties (for example own suppliers, other customers etc.).

The first issue is related to which **other actors the suppliers have relationships to both inside and outside the specific supply network** which is in focus. Stjernström and Bengtsson (2004) who primarily discuss suppliers' contributions to customers' product and process development in multiple supply networks, also discuss the suppliers' contributions to the general development of the supply chain/network they take part in. The authors have studied six suppliers, who have three overlapping customers. Based on their analysis they conclude that *"on the whole, the studied suppliers do not make any noteworthy contributions to the development of their customers' supply chains"* (Stjernström and Bengtsson 2004, p. 143). This is due to the fact that only one supplier secures customer

deliveries by actively co-operate and coordinate with a sub-supplier, and that most of the customers do not allow the suppliers to deliver to (or co-operate with) any of the customers' competitors. In fact, while the suppliers believed that delivering to different, competing customers would lead to faster technological development and more learning, one of the customers prohibit that by regulating this issue in the contract with the supplier. Thus, Stjernström and Bengtsson (2004) present three (competing) supply chains/networks where the suppliers have very little contact with other suppliers in the same chain/network, and are not allowed to have relationships to customers outside the supply chain/network. Customers outside the supply chain/network in focus are also the only type of actor which is considered in the article. Andersen and Christensen (2005) discuss similar issues as they look at the positions and bridging roles of individual suppliers in supply networks. Based on different cases, they present a typology with five different bridging roles subcontractors (suppliers) can have in international supply networks. Even though the focus of the article is on international relationships and networks, the principles behind the different bridging roles can be applied also in other supply network settings. In relation to discussion above, Andersen and Christensen (2005, p. 1272) claim that suppliers taking on these bridging roles must have "...the capability to connect relations to customers with relation to subcontractors...". However, in this framework the distinction between which actors are inside or outside a specific supply network is no in focus.

The second issue is related to **strategies for the suppliers to manage different initiatives** in supply networks, i.e. both related to internalising ideas from a large customer's supply network initiative and related to using these ideas in relation to other parties. Lilliecreutz (1998) discusses how a buying firm's restructuring of its supply base affects the suppliers, and how the suppliers can synchronise their strategies with the strategy of the buying firm. He claims that suppliers need to develop their own strategies as a consequence of buying firms' growing interest in restructuring, rationalising and developing their supply base/network. However, Lilliecreutz (1998, p. 81) points out that "... a broad customer base demands adaptations to more than one customer at the same time, which for most of the suppliers is not possible because each relationship requires special adaptations". He concludes by stating "A supplier's strategy in a buyer-dominating vertical market system is not one behaviour or one way of acting or one particular approach. Instead, it is a mixture of behaviours, actions or approaches" (Lilliecreutz 1998, p. 82). A similar issue is discussed by MacDuffie and Helper (1997) who have studied Honda's supply chain/network also from some of the suppliers' point of view. They claim that suppliers should consider how applicable skills learnt in one customer relationships will be in relation to other customers. Furthermore, MacDuffie and Helper (1997) point out the importance of getting all members of the firm (the supplier) to actively contribute to the change processes going on in relation to partaking in a supply network initiative. Calabrese (2000) have studied 25 small and medium sized suppliers and also looked into the strategies they adopted in order to handle changes initiated by the manufacturers (the buyers), for example reorganisation of the supply base/network. What is common to all these contributions is that they mainly focus on situations (or structures) where it is only one buyer (or a dominant buyer). This implies that all changes, strategies etc. are related to the initiatives taken by a single, often dominant buyer in a supply network. Finally, Johnsen and Ford (2005, p. 184) look at how suppliers react to two different sets of strategies applied by a buying firm. The first strategy is 'network intervention', i.e. that the buying firm is actively involved itself in indirect relationships. The second strategy is 'network delegation', i.e. that the buying firm instructs another actor to disseminate or forward the buying firm's preferences. Based on a case study they conclude that it in some situations was difficult for the suppliers to carry out their own strategies because they were constrained by the buying firm. However, at the end of the paper Johnsen and Ford (2005, p. 190) claim that: "This paper has chosen primarily to take the perspective of a single actor within the supply network, but the effects of, as well as the outcomes from, supply network intervention are not solely a function of an end customer's attempts to 'supply chain manage' per se; they are the result of many different actors' attempts to intervene within the network, although some more than others".

Based on the literature review above it seems important to further investigate how the suppliers, which form part of supply networks, may handle their own strategies and actions in supply networks where a lot of firms are trying to manage at the same time. Thus, literature on how firms 'manage in' networks is briefly discussed in the next section.

'Managing in' relationships and networks

In the founding days of the IMP Perspective, little attention was paid to management of relationships and networks. One reason for this lack of attention is probably that the IMP perspective arose in

opposition to the extant theories on management which focused on the active role of individual firms whose actions were largely unconstrained by other firms in atomistic markets. Recently, however, much more attention has been paid to the issues of 'managing in' relationships and networks, (see e.g. Ford et al. 1998; Håkansson and Ford 2002; Leek et al. 2002; Möller and Halinen 1999; Möller and Svahn 2003; Möller, Rajala and Svahn 2005; Ritter, Wilkinson and Johnston 2004). The issue of 'managing in' relationships and networks is often also referred to as the management paradoxes in networks (Håkansson and Ford 2002) related to 'opportunities and limitations in networks', influencing and being influenced in a network, and controlling and being t of control in networks.

Most of the literature on 'managing in' networks is conceptual and overview-like (e.g. Ritter, Wilkinson and Johnston 2004). The part of the literature which is not fully conceptual mainly relies on empirical material which is cross-sectional (e.g. Ritter 1999; Walter 1999) or it uses empirical material for exemplifying the specific concepts in focus, e.g. Håkansson and Ford (2002) who exemplifies their three management paradoxes with short examples of three different firms and networks. Furthermore, some of the literature focuses on levels of managing in networks e.g. Ritter, Wilkinson and Johnston (2004) who discuss how managing in networks concerns different managing efforts related to the levels of individual firms, individual dyads, the relationship portfolio, connected relationships and the network. In a similar vein, Leek et al. (2002) investigates how buyers manage their supplier relationships and contrasts this with how suppliers manage their customer relationships. In addition, most of the research into tools and methods supporting 'managing in networks' focuses on a single type of tool or method, e.g. portfolio management techniques (e.g. Freytag 2001; Zolkiewski and Turnbull 2002) or organisational positions such as Key Account Managers (e.g. Pardo, Salle and Spencer 1995).

'Managing in' supply networks

There is little in-dept, ideographic, empirical research on the issue of 'managing in' in relationships and networks. In particular, there is a lack of studies which report of 'managing in' networks from the perspectives of several firms in the network. One reason for this may be methodological difficulties with gaining access to several firms within one network; another reason may be that that, as mentioned above, IMP attention to the topic of managing in networks is quite recent. This coincides with the trends in the supply network literature, as presented above, where only a few recent contributions focus on the views and actions of other parties than the dominant buying firm. Furthermore, one shortcoming, which often is mentioned, is that most of the empirical studies of supply networks has been conducted in, or related to, large buyers within the automotive industry. This has e.g. been observed by Kinder (2003) who claims that the creation and management of supply networks have first and foremost been studied in automotive settings, originating in Japan and transferred to other (automotive) manufacturing countries. In a similar vein Stjernström and Bengtsson (2004) argue that most studies have focus on 'organised networks' characterised by many actors and tiers, primarily within the automotive industry. Lamming et al. (2000, p. 676) also point out these shortcomings and claim that managers in other industry than the automotive industry "... *thus lack theoretical underpinning for managing their particular kinds of supply network*". In particular, there is a need to investigate and theorise on how small and medium-sized, non-automotive, buyer and supplier companies in Western culture handle the issue of 'managing of' and 'managing in' supply networks. Thus, we need studies on different aspects of supply networks in different empirical settings. In the following sections we look into how different sub-contractors within the construction industry have reacted to a supply network initiative made by an important customer (main contractor).

Research method and Empirical Base

The paper is based on a case study of a main contractor, V-contractor, who has initiated the substantiation of a supply network with some of its most important sub-contractors in terms of total purchasing spend. The case study is part of a longitudinal study of how the main contractor manages its purchasing and supply. Data are gathered through semi-structured interviews with several people at different positions in all involved firms, participation in meetings with one or more of the involved firms, seminars, and document studies. For some time, V-contractor had been displeased by the way in which they collaborated with technical subcontractors. In particular, V-contractor was dissatisfied with the fact that in many projects 'many new experience curves were climbed' – experience curves related to the collaboration between V-contractor and individual technical subcontractors as well as

the experience curves related to collaboration between the technical subcontractors. Therefore, V-contractor wanted to establish mechanisms which could facilitate joint learning and mutual adaptations among V-contractor and their technical subcontractors, and among the technical subcontractors. In particular, V-contractor wanted to establish a small network of technical subcontractors which could 'train as a team' across a number of construction projects which would function as pilot arenas for the collaborative efforts. Therefore, V-contractor started a process of mapping their present technical subcontractors in order to identify suitable candidates for the initiative. Among the important features of the relationships, V-contractor stressed that the technical subcontractors should have worked with V-contractor for several years, that the collaboration had been satisfactory, and that there were good personal chemistry among the individuals from the different firms which were most heavily involved in the relationships to V-contractor. Having singled-out 5-6 technical subcontractors, V-contractor 'invited themselves to visit the respective subcontractors, on the premises of the subcontractors.' In beforehand of the meetings, V-contractor had asked each of the subcontractors to make a presentation of their firm which would enable V-contractor to assess whether the subcontractor had the intention as well as the ability to partake in efforts aimed at joint, continuous improvement and learning. Based on these meetings, V-contractor chose three subcontractors – covering the respective specialisms of plumbing, ventilation, and electrical services. Due to limitations of space, it is not possible to describe in detail the Subcontractor Network initiative. Therefore, we opt for only presenting the managerial approaches employed by the respective subcontractors in relation to the focal supply network initiative. The reactions by the respective subcontractors are presented in tables 1, 2, and 3.

---Insert table 1 around here---

---Insert table 2 around here---

---Insert table 3 around here---

Analysis and Discussion

In this section we address a number of different issues which aid understanding and explanation of how suppliers react when being involved in supply network building initiatives of a customer.

Fitting the initiative into a context of other initiatives and relationships

The analysis has shown how the three subcontractors fitted V-contractor's Network initiative into their business context of other relationships to customers, suppliers and complementary firms. From the analysis we can observe four different types of fitting/re-actions by the subcontractors:

- A) Continuing with processes which already support the focal initiative
- B) Intensifying and adjusting processes which already give some support to the focal initiative
- C) Withdrawing from or weakening ongoing processes which (may) undermine the focal initiative
- D) Starting up processes which can support the focal initiative

Ad A) Continuing with processes which already support the focal initiative

The subcontractors are already involved in several processes which support the focal initiative of developing a Subcontractor Network. Firstly, the subcontractors have all had a relationship to V-contractor for an extended period of time, and V-contractor has been the largest or one of the largest customers over several years. Therefore, it is not surprising that all three subcontractors have become used to V-contractor's cooperative posture towards the technical subcontractors. Hence, many processes have already been set into motion in the relationships, and the latest initiative to some extent only represents a 'logical extension' of the long-term collaborative efforts. Secondly, the subcontractors have also been involved in other initiatives which follow a somewhat similar logic of cooperative interaction in a small(er) number of relationships to customers, suppliers etc. Some of these initiatives have been started up by the subcontractors themselves, whereas other initiatives have been started up by counterparts of the subcontractors.

Type A 1: Processes started up by the initiator of the focal initiative

Example 1: V-contractor has already initiated open, cooperative processes towards all three subcontractors, and e.g. O-plumbing views the Subcontractor Network Initiative as 'a natural extension of the relationship to V-contractor'.

Type A 2: Processes where the subcontractors are the main initiator

Example 2: At the corporate level, O-plumbing has developed close relationships to a set of materials suppliers.

Example 3: Without having an explicit strategy of developing a close relationship to K-plumbing, E-ventilation have over time developed a substantial relationship to this firm and very often choose K-plumbing as the plumbing subcontractor on total technical subcontracts led by E-ventilation.

Example 4: All three subcontractors have, more or less intentionally, reduced the supplier base and now work more closely together with the remaining suppliers.

Example 5: At S-electrical internal initiatives had been taken towards reengineering the work processes and changing the standard piecework contract and payment system.

Example 6: S-electrical have tried to develop a more continuous and substantial relationship to E-contractor, since maintenance contracts support the logic of continuity.

Type A 3: Processes where counterparts of the subcontractors are the main initiators

Example 7: At S-electrical, the telecommunications department has become a preferred supplier to T-electronics and, through that process, has developed a substantial relationship to T-electronics.

Example 8: E-ventilation responded positively to the initiative of another main contractor to the pilot project of cooperative 'working collectives' involving two ventilation subcontractors.

Hence, we can identify a number of examples of processes which can support the focal initiatives and which the subcontractors expect to continue in parallel with the focal initiative, thus aspiring to some sort of synergistical interplay between the focal initiative and other processes.

We discerned between initiatives instigated by different parties: the initiator of the focal initiative, the subcontractors, and other counterparts of the subcontractors. This is so, because when describing and explaining the processes, the informants put some weight on stressing who had the main initiating role. However, we may emphasise that even though one party in a relationship acts as the main driving force of an initiative within a relationship, it may also be a joint initiative. Furthermore, whether the initiative developed in the direction intended naturally depends on how the involved parties act, re-act and re-re-act to substantiate the initiative. An initiative may fall on stone ground and the resulting effects may consist mainly of resentment due to having had a request rejected.

Ad B) Intensifying and adjusting processes which already give some support to the focal initiative

Example 9: Although H-contractor have not yet reacted enthusiastically to S-electrical's initiative at developing a more substantial relationship, S-electrical aim to increase the efforts at convincing H-contractor of the benefits which can be reaped from cooperation.

Example 10: For some time, E-ventilation has chosen to involve S-electrical in projects for other customers than V-contractor. E-ventilation expects to increase the number of occasions on which this happens due to the expected joint learning effects on efficiency.

Example 11: At the corporate level, O-plumbing has developed substantial relationships to a set of A-suppliers of materials. So far, V-contractor has not shown much interest in the establishment of direct contact between V-contractor and the suppliers of materials. However, the theme has come up in a number of discussions within the Subcontractor Network, and it is viewed as very likely that, in the future, direct relations will be established between V-contractor and some A-suppliers.

Ad C) Withdrawing from or weakening ongoing processes which (may) undermine the focal initiative

Example 12: For some time, O-plumbing has had R-contractor as the 2nd large customer, in addition to V-contractor. However, O-plumbing perceives the way of working together with R-contractor vs. with V-contractor as substantially different and find it strenuous to, at the same time, engage in two large customer relationships which are based on very different logics of interaction. Therefore, O-plumbing expects to weaken their interest in projects with R-contractor and thereby, over time, reduce the amount of work they do in relation to R-contractor.

Example 13: O-plumbing has worked with S-contractor on a small number of projects. However, due to these experiences, O-plumbing has come to the conclusion that the differences between working with S-contractor are quite different from working with V-contractor, although both have an orientation towards cooperation and partnering. The differences are primarily due differences in the extent to which subcontractors are actively involved in early phases, concept development and project planning. Therefore, O-plumbing are not going to actively pursue the development of S-contractor as their 2nd large customer; instead, O-plumbing will engage in fewer and fewer S-contractor-related projects thus expecting that the relationship to S-contractor will shrink over time.

Example 14: For some years, O-plumbing have been involved, together with X-electrical, in an initiative aimed at developing a kind of subcontract work structure which fit poorly with the all-in type of contract presently employed by V-contractor as well as many other main contractors. For many reasons, the initiative has not yet manifested itself in anything concrete; however, due to the perceived incompatibility with V-contractor's Subcontractor Network initiative, O-plumbing expects to 'lay low' in relation to X-electrical which, in turn, will probably result in the relationship to X-electrical decreasing over time.

Example 15: At the corporate level at S-electrical, some attempts were made at developing the firm as a provider of all three types of technical subcontracts. So far, the initiative has not been implemented at the S-electrical business unit in focus in the present paper, and at the corporate level there seems to be some agreement that no more S-electrical units are to pursue the idea of developing all technical subcontracting specialisms in-house. Nevertheless, S-electrical aim to continue with dispiriting such ideas internally.

Ad D) Starting up processes which can support the focal initiative

Example 16: S-electrical involves O-plumbing in projects where V-contractor is not the main contractor, thereby increasing the amount of joint learning and experience which the two parties may develop.

Example 17: O-plumbing aim to have two large customer relationships, and preferably the way in which O-plumbing work for the customers should not differ too much. Therefore, O-plumbing expects to search for a 2nd large customer which fit V-contractor.

Example 18: S-electrical aim to identify some property owners and approach them with cooperative initiatives, since S-electrical find this way of working with property owners beneficial and, in addition, it will help to increase the amount of long-term, cooperative relations S-electrical engage in.

Example 19: O-plumbing have recently started up a process aimed at finding project planning engineers to employ in the company in order to expand project planning capability and capacity since V-contractor's Subcontractor Network Initiative comprise an increase in such activities as well as learning across projects.

Example 20: S-electrical has been working on creating relationships to a couple of electrical consulting engineers in order to reap economies of repetition and learning. In order to enable continuity if learning across the different V-contractor projects in which S-electrical is involved, S-electrical aim to use the same consulting engineers on all the V-contractor projects.

Looking across the four categories of 'fitting', we can observe that the lion's share of the examples fall within Type A. This is not surprising, since customers often search within their current supply base for suppliers who seem to be predisposed to accept such an initiative. Furthermore, the suppliers who are actually approached and, furthermore, take an active interest in taking part in the initiative are probably often those who see the focal initiative as a possibility to amplify the value of their other, ongoing processes. Hence, both those 'who are choosing' which suppliers to approach and those suppliers 'who agree to be chosen' search for ongoing streams at the suppliers on which the focal initiative can float more easily ahead. Furthermore, if a buying firm search for suppliers outside its current supply base, those who may respond to the sort of advertisements which MacDuffie and Helper (1997) have observed in the case of Honda, may be those who see the initiative as complementary to its ongoing processes whether they be aimed at continuing the present direction of change or form part of strategic processes aimed at effecting change of a more radical sort.

The Subcontractor Network Initiative discussed in this paper may be viewed as a case of relationship and network change. Consequently, the findings related to the fitting of a focal initiative into a wider context may be related to the concepts of confined vs. connected change as suggested by Halinen, Salmi and Havila (1999). They conceptualise and discuss change as confined occurring only within a dyad, or connected with spill-over effects to other relationships in the network. Considering the present

state of our research, it is difficult to assess whether the Subcontractor Network Initiative primarily will change the relationships between those directly involved in the initiative, or if the effects will spread out into the wider network contexts of the respective, involved parties. The intention of connected change seems to be present; however, it remains to be seen if network change is brought about over time, as the initiative unfolds. Therefore, to assess this, it is necessary to follow initiatives of the sort investigated in this paper over extended periods of time and, consequently, it is a matter to be addressed by future research.

Levels of managing employed in relation to the focal initiative

We may also observe that the various initiatives, which the subcontractors continue, escalate, start up, weaken or withdraw from, in order to support and increase the momentum of the focal initiative, concern processes in relation to many different types of counterparts, and at different levels of aggregation. Hence, the subcontractors conceive of each their mix of supportive approaches which they combine with the focal initiative. The empirically identified levels of managing and strategizing comprise:

- Customer portfolio strategies
- Strategies related to specific customer relationships
- Supplier portfolio strategies
- Strategies related to specific supplier relationships
- Strategies related to relationships to specific subcontractors
- Strategies related to the overall relationship portfolio

Hence, we may relate the subcontractors' efforts at managing and strategizing in their business network context in relation to the categories of management discerned by Ritter, Wilkinson and Johnston (2004) and discussed by Leek, Turnbull and Naudé (2002) and Zolkiewski and Turnbull (2002). As mentioned in the theoretical section, Ritter, Wilkinson and Johnston (2004, p.179) propose that firms consider different levels of management i.e. the level of:

- The individual firm
- The individual dyad
- The relationship portfolio level
- The level of connected relationships
- The network level

It should be stressed that the definition of the level of 'relationship portfolio' management, as discussed by Ritter et al. (2004) as well as by Zolkiewski and Turnbull (2002), comprise both relationship portfolios as 'traditionally' conceptualised (as quite unrelated entities except for being similar of kind in some dimension and, hence, possible to classify) as well as the concept of 'connections between direct relationships of a single firm' (thus focusing on the directions of effects among relationships whether they are similar of kind or not).

In our data it is possible to identify three levels of management, i.e. at the levels of individual relationships, the level of various sub-portfolios, and the level of the overall relationship portfolio. In table 4, the different levels appear in the inner cells of the table. In relation to each level, we refer to one example cf. the examples discussed in the previous section; except the level of 'Complementor portfolio strategy' for which we were not able to identify an example. (The reason for referring to one example only is purely due to keeping amount of text inside the table at a reasonably low level.)

---Insert table 4 around here---

As mentioned in the theory section, little attention has so far been paid to investigating the suppliers' view on and (re)actions related to their customers' initiatives at creating supply networks. Therefore, little systematic investigation is available that specifically addresses how suppliers manage the customers' initiatives in relation to their wider business network context. MacDuffie and Helper (1997) report on how a supplier tries to manage very different relationships to Honda vs. to Ford thus touching upon the issue of customer portfolio management. Nobeoka, Dyer and Madhok (2002) address the issue of suppliers' 'customer scope strategy' in relation to large automotive buyers who actively manage supply networks and propose that a supplier may learn across relationships to different customers. This is possible because not all knowledge is relationship-specific knowledge; some of it is re-deployable knowledge which can be transferred across relationships. Mota and de Castro (2005) also indirectly discuss the consequences of customer scope and portfolio strategy on

suppliers' capability development processes. In addition, Johnsen and Ford (2005, p.191) discuss suppliers as the recipients of customers' supply network interventions and touch upon how suppliers may try to handle relationships with other suppliers and customers. In particular, they mention how suppliers' management of a focal customer's network initiative may involve concepts, models and techniques developed within the discipline of marketing. Furthermore, within the line of research on Supply Chain Management, there are numerous articles which report on how (first tier) suppliers handle relationships to those (second tier) sub-suppliers which have been chosen by a focal customer. To the extent that the sub-suppliers chosen by the customers are part of the supply base of the supplier, these articles to some extent address the issue of management of relationships overall portfolio level. There is also a little research related to how suppliers within a single customer-related initiative relate to each other, cf. Dyer and Nobeoka (2000) and O'Sullivan (2006). However, there is little research which addresses the mix of different levels of management and strategizing used by suppliers.

In our investigation, it seems as if the subcontractors try to fit the focal initiative into their wider business network contexts through applying a mix of different, though interrelated, processes and levels of sense-making and connecting processes in order to support the focal Subcontractor Network Initiative. Furthermore, it seems as if there are some differences between the particular mixes used by the three subcontractors. For example, two of the subcontractors strategize predominantly in relation to supplier sub-portfolio levels, while the third subcontractor also carries out strategizing at the supplier relationship level. The identification of such different mixes is a result of, and was not the point of departure for, the present research. Therefore, systematic investigation into the causes of these different mixes is an issue to be addressed in future research.

We may ask whether it is useful to discern the level of customer, supplier or 'complementor' *sub-portfolio* levels. First of all, it may be that this level is useful to consider when a company tries to homogenize and heterogenize the way in which it relates to (a group of) customers, or to suppliers. Positive economies of standardization and repetition may be reaped if, for example, a customer divides up its suppliers in different groups and treats suppliers similarly within the group but differently across groups. This is, for example, the case in Toyota's supply network where 'one-size fits all' policy is applied within each tier of suppliers, cf. Dyer, Cho and Chu (1998) and Dyer and Nobeoka (2000). However, this issue also touches upon the usefulness of considering customer relationships as distinct from supplier relationships; an issue which, in essence, concerns whether a buyer-supplier relationship differs depending on whether one concentrates on the buyer's vs. the supplier's perspective on the relationship. We may inductively conclude that the sub-portfolio level makes empirical sense, since the firms do consider this level. However, since our investigation did not focus explicitly on this issue, we cannot explain the relevance of discerning the level of relationship sub-portfolios. This, however, may form a point of departure for future research into and discussion of how suppliers manage their different types (or categories) of relationships, and why.

Another issue of relevance to our findings is the nature of the managing and strategizing efforts disclosed through our investigation. We have applied, in this piece of research, an undifferentiated conceptualisation of strategy. However, as suggested by Mintzberg and Waters (1985) strategies may be intended, deliberate, unrealized, emergent and/or realised. Therefore, longitudinal investigation of supply network initiatives may aim to discern between and track the strategies which suppliers design or follow, and whether they are realized or not.

A last issue which we have not addressed is the fact that the subcontractors also tried to influence the supply network initiative, per se, so that it could more easily be fitted into their respective contexts. This type of reactions is, however, not addressed in this paper which focuses on the wider business context of the subcontractors.

Preserving a network context into which the focal initiative does not fit

So far we have primarily focused on the efforts of the subcontractors towards fitting the focal initiative into their respective wider business contexts comprising other initiatives and relationships. However, we have not addressed how 'wide' these business contexts are. In our material it seems as if two of the subcontractors aim to pursue, to the extent it is possible, a logic of more substantial cooperative interaction with a reduced set of customers and suppliers. O-plumbing as well as S-electrical aim to have V-contractor as a major customer and, furthermore, make efforts at aligning their other customer

relationships to the V-contractor relationship in order to achieve synergistic effects across their customer relationships. In contrast, E-ventilation aims to preserve V-contractor as a large customer, however taking a smaller amount of their total capacity, i.e. when compared to the amount of capacity O-plumbing and S-electrical use in relation to V-contractor. Furthermore, E-ventilation expects to preserve a number of existing large customer relationships in which a quite different logic of interaction predominates, i.e. price focus and competitive bidding. Hence, E-ventilation seems to opt for a situation in which it relates in very different ways to different customers. This, however, may in part be possible due to E-ventilation having dedicated a small number of 'key account managers' to the relationship to V-contractor. Through such relational-specific employees, it may be possible for a firm to act according to different logics of interaction without cognitive and behavioural confusion, as well as unsuccessful attempts at acting and sense-making. Difficulties of this sort are rarely addressed in extant literature. Nobeoka, Dyer and Madhok (2002) suggest that similarities across major customers lead to increased supplier performance. However, others have suggested the possibility of operating according to different logics of interaction – even within the same customer relationship. In particular, Bengtsson and Kock (2000) suggest that it is possible to simultaneously compete and cooperate with the same competitor; the requirement for successfully doing this is, however, that the application of the different logics of interaction and seeking of self-interest is separated in time and/or space. If we transfer this logic to buyer-supplier relationships, we may deduce that the different logics of interaction ought to be applied by different departments or different people within a department relating to the same customer, or that the different logics should be applied in different projects at different points in time. Whether or not E-ventilation will be successful at engaging in large customer relationships underpinned by very different logics of interaction remains an empirical question. However, such issues may be usefully addressed in research focusing on the ability of firms, and the individuals within them, to engage in heterogeneous relationships underpinned by different logics of interaction.

Conclusions and Implications

The purpose of the paper was to describe, conceptualise and discuss how suppliers respond to supplier network initiatives taken by their customers. Through the analysis and discussion sections, we have addressed the issue and have come to the conclusion that suppliers try to fit such focal initiatives into the wider business context of the supplier by:

- Continuing with ongoing processes which already support the focal initiative
- Intensifying and adjusting ongoing processes which already give some support to the focal initiative
- Withdrawing from or weakening ongoing processes which (may) undermine the focal initiative
- Starting up new processes which can support the focal initiative

Suppliers may gain inspiration from considering these aspects at different point in time. For example, when the supplier is approached by a customer regarding whether or not the supplier would like to take part in the initiative, as well as when the supplier is a part of the initiative and is interested in trying to make the initiative more synergistically related to parallel processes in which the supplier is (or can be) involved.

Furthermore, our research has shown that considering how and where to pursue the four above-mentioned efforts, suppliers consider different levels of managing and strategizing in their wider business network context. In particular, we identified the following levels:

- Strategies related to specific relationships to either customers, suppliers or other counterparts
- Customer or supplier portfolio strategies
- Strategies related to the overall relationship portfolio, or a part of it

Suppliers may consider which mix of different units of analysis they (may) employ when 'managing in networks' and analysing their participation in relation to a focal customer's attempt at developing a supply network. For example, a matrix with the four 'fitting' processes on the one axis and the different possible levels of management on the other axis could form the point of departure for structuring a dialogue among managers on how initiatives related to various counterparts, as well as internal initiatives, may be systematically combined. An example of such a matrix is shown in table 5

---Insert table 5 around here---

Lastly, we have identified the issue of firms engaging simultaneously in relationships in which different logics of coordination predominate. Our material seems to indicate that it may be possible to pursue

business activities underpinned by different degrees of cooperation and different customer-logics regarding how suppliers are chosen and evaluated, i.e. based on improvements across projects or based on offering a low price in a number of separate, competitive bidding situations. Suppliers may consider the positive and negative effects of pursuing a mix of relationships with different logics, and consider whether they, ought to change the mix by continuing, escalating, starting up, weakening and/or withdrawing from processes in which the supplier are presently involved. And, if a supplier would come to the conclusion that it needs a more varied mix of logics, or want to pursue a process of radical strategic change, it may be that the supplier ought to consider starting up processes which do not fit the processes in presently engages in.

Regarding implications for customers who consider starting up supply network initiatives, as well as those who have already started up such initiatives, it may be beneficial to consider to which extent the customer is interested in taking part in, and try to direct, the processes through which its suppliers analyse, manage and strategize on their participation in the customer's supply network. Similarly, customers may not always benefit from having insight into the particulars of the ways in which its suppliers continue, escalate, adjust, start up, weaken and/or withdraw from other processes in order to connect, or separate, the customer's network initiative from the wider network context of the supplier. As suggested by Holmen and Pedersen (2003), a firm may benefit from having a quite limited network horizon, both due to the resources demands such insight would require, but also due to being able to refrain from dictating the suppliers what to do. Some ignorance is possibly useful, since it may be difficult for a (large, competent, powerful) customer to refrain from dictating its suppliers – even if the customer is aware that it has only superficial insight into the contexts of the suppliers into which the initiative has to be fitted.

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Table 1: The strategies employed by the plumbing subcontractor

Strategy towards (type of) counterpart		Content of the strategy
Customer strategy	General	<ul style="list-style-type: none"> To be customer's first choice To have durable customer relationships, high degree of repeat purchase To have a maximum 2 large customers, which draw the firm in similar directions, and a number of small customers
	V-contractor	<ul style="list-style-type: none"> To maintain V-contractor as one of the two large customers To further develop existing relationship through V-contractor's Network initiative
	R-contractor	<ul style="list-style-type: none"> To phase out R-contractor as 2nd large customer due to incompatibility with relationship to V-contractor as well as incompatibility with emerging non-contractual culture in O-plumbing To keep R-contractor as a small, occasional customer
	S-contractor	<ul style="list-style-type: none"> To not make attempts at acquiring S-contractor as 2nd large customer due to incompatibility with relationship to V-contractor as well as incompatibility with internal capability structure of O-plumbing To keep S-contractor as a small, occasional customer
	2 nd large	<ul style="list-style-type: none"> To identify customer who may be possible to develop into a 2nd large customer, compatible with O-plumbing as well as relationship to V-contractor
Supply strategy	General	<ul style="list-style-type: none"> To increase initiatives at supply management To continue efforts at supplier base reduction To continue with efforts at developing cooperative relationships to remaining suppliers
	A-suppliers (of materials)	<ul style="list-style-type: none"> To actively embrace O-plumbing's corporate level initiative at developing dual (parallel) supply of important, volume materials To make increased service level and calculation assistance an integral part of the relationships To consider if (some of) the relationships to A-suppliers should become related to the relationship to V-contractor To make no attempts at creating direct relationships among the A-suppliers
	Consulting engineers	<ul style="list-style-type: none"> To either build up internal consulting engineer capability regarding plumbing services, or develop continuous relationships to small number of consulting engineers
Strategy towards electrical subcontractors	S-electrical	<ul style="list-style-type: none"> To develop the relationship to S-electrical through V-contractor's initiative To develop the relationship to S-electrical through taking part in activities and projects on S-electrical's initiative for other S-electrical customers
	X-electrical	<ul style="list-style-type: none"> To not actively work towards raising to cooperation with X-electrical to intended, as well as earlier, high levels of cooperation; due to incompatibility with relationship to V-contractor, as a consequence of bad experiences in earlier cooperation between V-contractor and X-electrical, as well as from incompatibility due to all-in contractual-organisational form
Strategy towards ventilation subcontractors	E-ventilation	<ul style="list-style-type: none"> To keep on being a provider of ventilation services To develop the relationship to E-ventilation through V-contractor's initiative To find formats of interaction and data sharing which enable O-plumbing and E-ventilation to work well together on V-contractor's projects; although the capabilities of O-plumbing and E-ventilation are overlapping and competitive in relation to some other customers than V-contractor
Internal strategy	Project planning	<ul style="list-style-type: none"> To build up additional capacity within the field of project planning; in order to take an actively part in V-contractor's initiative focusing on early involvement as well as enabling internal retention of the learning acquired through V-contractor's initiative
Overall cooperative strategy		<ul style="list-style-type: none"> To continue with efforts at supplier and customer base reduction To pursue more cooperation with external parties

Table 2: The strategies employed by the electrical subcontractor

Strategy towards (type of) counterpart		Content of the strategy
Customer strategy	General	<ul style="list-style-type: none"> To be a preferred supplier to customers To develop or maintain substantial relationships to customers wherever it is suitable i.e. for regular customers, similarities across projects To decrease the amount of attention spent of price issues, fixed price agreements
	V-contractor	<ul style="list-style-type: none"> To maintain V-contractor as the major customer To further develop the relationship through V-contractor's Network initiative To further develop the relationship to V-contractor's in relation to construction projects which are not part of the Network initiative
	T-electronics	<ul style="list-style-type: none"> To continue being part of T-electronics's set of preferred, approved suppliers; due to compatibility with relationship to V-contractor as well as compatibility with emerging cooperative culture in S-electrical To continue with fixed price contracts for a set of standard job types, thereby increasing predictability To continue internationalisation in relation to T-electronics's process
	E-contractor	<ul style="list-style-type: none"> To continue with the attempt at developing a substantial relationship together with E-contractor with a focus on service, maintenance and technical advice; due to compatibility with relationship to V-contractor
	H-contractor	<ul style="list-style-type: none"> To continue to interest H-contractor in developing a substantial relationship to S-electrical although S-electrical's previous attempt was not been received with great enthusiasm due to the customer having little time for responding to the initiative
	Other property owners	<ul style="list-style-type: none"> To identify other property owning customers who might be interested in durable service and maintenance contracts, and try to develop continuous relationships to such customers whenever possible
Supply strategy	General	<ul style="list-style-type: none"> To Increase initiatives at supply management To continue efforts at supplier base reduction To continue with efforts at developing cooperative relationships to remaining suppliers
	Consulting engineers	<ul style="list-style-type: none"> To continue with building continuous relationships to a couple of consulting engineers within the field of electrical subcontracts, use one consulting engineer in relation to projects part of V-contractor's Network initiative
Strategy towards plumbing subcontractors	O-plumbing	<ul style="list-style-type: none"> To develop the relationship to O-plumbing through V-contractor's Network initiative To develop the relationship to O-plumbing in relation to V-contractor construction projects which are not part of the Network initiative To develop the relationship to O-plumbing through involving O-plumbing in activities and projects for other S-electrical customers
Strategy towards ventilation subcontractors	E-ventilation	<ul style="list-style-type: none"> To further develop the relationship to E-ventilation through V-contractor's Network initiative To develop the relationship to E-ventilation through V-contractor construction projects which are not part of the Network initiative To develop the relationship to E-ventilation through initiating activities and projects for other S-electrical customers To develop the relationship to E-ventilation through participating in activities and projects initiated by E-ventilation for other customers of E-ventilation
Internal strategy		<ul style="list-style-type: none"> To continue work on non-standard piecework contracts and payment structures To continue work on internal change of work processes making them in line with the strategy of making front-line personnel becoming more Committed, Responsible and Unambiguous. To dispirit the earlier idea and initiative aimed at developing total technical subcontract expertise internally in S-electrical

Table 3: The strategies employed by the ventilation subcontractor

Strategy towards (type of) counterpart		Content of the strategy
Customer strategy	General	<ul style="list-style-type: none"> To develop or maintain substantial relationships to customers who are interested in cooperation To (also) maintain relationships to private and public customers who award contracts through competitive bidding and focus on price
	V-contractor	<ul style="list-style-type: none"> To maintain V-contractor as the largest customer, of a small number of large customers To further develop the relationship through V-contractor's Network initiative To further develop the relationship to V-contractor in relation to construction projects which are not part of the Network initiative
	T-contractor	<ul style="list-style-type: none"> To maintain T-contractor as one of E-ventilation's large customers To maintain current relationship with a focus on price-related issues
	P-contractor	<ul style="list-style-type: none"> To maintain P-contractor as one of E-ventilation's large customers To maintain current relationship with a focus on price-related issues
	H-contractor	<ul style="list-style-type: none"> To maintain H-contractor as one of E-ventilation's large customers To maintain current relationship with a focus on price-related issues
	State and municipality	<ul style="list-style-type: none"> To continue to bid on contracts issued by the State or municipalities
Supply strategy	General	<ul style="list-style-type: none"> To increase initiatives at supply management To continue efforts at supplier base reduction To consider initiatives from suppliers who put forward ideas related to the concepts of partnering and cooperation
Strategy towards subcontractors	General	<ul style="list-style-type: none"> To develop current focus on ventilation subcontracts and competence To further develop experience with taking the lead role in total technical subcontracts as well as in other projects where technical subcontractors are encouraged to cooperate To be sympathetic to initiatives aimed at increasing cooperation, e.g. 'working collectives' with other ventilation subcontractors on single project
Strategy towards plumbing subcontractors	O-plumbing	<ul style="list-style-type: none"> To develop the relationship to O-plumbing through V-contractor's Network initiative To develop the relationship to O-plumbing in relation to V-contractor construction projects which are not part of the Network initiative To develop relationship to O-plumbing through projects for other customers than V-contractor To continue to not involve O-plumbing in total technical subcontracts due to O-plumbing (so far) not having been interested in cooperation according to this concept
	K-plumbing	<ul style="list-style-type: none"> To continue substantial relationship to K-plumbing, through working together on projects for V-contractor, as well as initiate cooperation on projects for other customers
Strategy towards electrical subcontractors	S-electrical	<ul style="list-style-type: none"> To develop the relationship to S-electrical through V-contractor's Network initiative To develop the relationship to S-electrical through V-contractor construction projects which are not part of the Network initiative To develop the relationship to S-electrical by initiating activities and projects for other E-ventilation customers, especially related to rehabilitation projects To develop the relationship to S-electrical through participating in activities and projects initiated by S-electrical for other customers of S-electrical
	E-electrical	<ul style="list-style-type: none"> To continue minor relationship to E-electrical
	B-electrical	<ul style="list-style-type: none"> To continue relationship to B-electrical; who would like to participate in V-contractor's Network initiative but who were not chosen by V-contractor To continue relationship to B-electrical through projects relate to V-contractor as well as projects related to other customers
Internal strategy		<ul style="list-style-type: none"> To continue to work on internal change of work processes 'Focus on the project' aimed at improving project efficiency

Table 4: Levels of management and strategizing in supply networks

		Level of management and strategy		
		Relationship level	Sub-portfolio level	Overall portfolio level
Type of counterpart	Customers	Customer relationship strategy (cf. example 6)	Customer portfolio strategy (cf. example 17)	Strategy for connecting relationships to customers, supplier or complementors across sub-portfolios (cf. example 11)
	Suppliers	Supplier relationship strategy (cf. example 3)	Supplier portfolio strategy (cf. example 4)	
	Complementors	Complementor relationship strategy (cf. example 14)	Complementor portfolio strategy (N.A.)	

Table 5: Matrix for structuring dialogue on how initiatives may be systematically combined

Fitting Processes \ Levels	The level of the firm	The individual relationship level	The relationship sub-portfolio level	The overall relationship portfolio level	The level of connected relationships	The network level
Continuing with ongoing processes which already support the focal initiative						
Intensifying or adjusting ongoing processes which already give some support to the focal initiative						
Withdrawing from or weakening ongoing processes which (may) undermine the focal initiative						
Starting up new processes which can support the focal initiative						