BUILDING BRIDGES AND BREAKING BONDS
ASPECTS OF SOCIAL CAPITAL IN A REGIONAL STRATEGIC NETWORK

Jens Eklinder Frick

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Building Bridges and Breaking Bonds

Aspects of social capital in a regional strategic network

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Abstract

Investing in cluster formation or encouraging companies to network in regional strategic networks is a common strategy used by municipalities to promote regional growth in peripheral regions. Previous research has investigated the significance of creating regional advantages by building clusters and regional networks, but researchers have not provided much insight into the problems facing the project management trying to implement such collaboration. In my thesis I describe and analyze a network project in order to shed light upon some of the complications that such a collaboration project might entail. My theoretical framework of analysis rests upon the concept of social capital, a concept that investigates the value that social contacts might incur.

I have studied a designed network situated in the Swedish municipality of Söderhamn called Firsam. After the closure of the telecommunications factory of Ericsson/Emerson and the military airbase F15 Söderhamn lost 10 % of its local employment in 2004. The need for regional growth programmes therefore became dire. The companies that prior to the closure worked in close collaboration with the Ericsson/Emerson factory were also looking for new revenue streams to compensate for their loss of business. Collaboration with the local manufacturing companies to create innovative projects and to take on joint tenders seemed to be a perfect solution to the problems facing them and the municipality. In this spirit a regional strategic network called Firsam (Företag i regional samverkan) was initiated.

I analyze the Firsam project using two different aspects of the concept social capital: “bonding” and “bridging”. The bonding form of social capital is associated with small and homogeneous groups that build prerequisites for long-term collaboration by forming close contacts and building trust. The bridging form of social capital creates an open stance towards social relations that enables new contacts to be formed outside one’s own socially established context.

The bonding form of social capital provides prerequisites for close collaboration but can also result in close-mindedness and over-embeddedness in one’s own social context. Building bridging connections outside one’s own social context might encourage innovative thinking and spur entrepreneurship. The somewhat fleeting connections that are associated with the bridging form of social capital might on the other hand make it difficult to cultivate a common sense of trust within an existing group.

These different manifestations of social capital create a paradox that might be hard to handle in the design of a regional strategic network. Is it best to support already existing network structures and impose the risk of creating a less innovative environment, or should members from outside the established social context be included in the network design to encourage innovative thinking? There are both positive and negative effects associated with either strategy. I shed light upon this paradox by analyzing the regional strategic network of Firsam.
Sammandrag

Att förstärka och utveckla företagsnätverk genom klusterinitiativ och strategiska nätverksprojekt är ofta förekommande åtgärder för att gynna regional tillväxt och stärka lokala företags konkurrenskraft. Mycket forskning har ägnats åt att ifrågasätta huruvida detta tillvägagångssätt är effektivt, men det finns mindre forskning som utreder hur projektledarna bör gå tillväga. I min licentiatavhandling beskriver och analyserar jag ett nätverksprojekt för att belysa de komplikationer som sådan samverkan kan innebära. Min teoretiska utgångspunkt är socialt kapital vilket analyserar det värde som kan uppkomma och nyttjas genom sociala kontakter.


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Jens Eklinder Frick
1. Introduction

1.1 Cluster initiatives and regional strategic networks as instruments for regional growth

Investment in cluster formation or encouraging companies to network in regional strategic networks is a common strategy used by municipalities to promote regional growth in peripheral municipalities. Political decision-makers and policymakers use regional strategic networks as a tool in building their political agenda and legitimizing their actions towards regional affluence (Hallén et al 2009a, Andresen 2011, Sölvell 2009).

With the birth of a “Europe of regions” (The Maastricht Treaty 1991) the governance structures became increasingly localized (Veggeland 2004). Borderless Europe now competes in the race for a prominent position in the global economy. In order to achieve increased competitiveness and economic growth all parts of Europe now have to be included. Therefore, not only are firms competing (Gomes-Casseres 1994), but regions are also considered to be competing entities (Malecki 2004), a view that complicates the rules of competition and the free market. The regional economies within Europe are very different in density, and sparsely populated areas are forced to compete with urban economies. Companies located in remote geographical regions tend to have difficulties in achieving market success (Andresen 2011). Global competitiveness on a larger scale is hindered by the relatively minute local markets. The local conditions do not create the necessary challenges to improve products and services. To add insult to injury geographical remoteness makes transportation costs relatively high and the distance to the marketplace is also greater (Pesämaa and Hair 2007).

A solution to the competitive problems of geographically remote regions has been the formation of collaborative networks (Pesämaa and Hair 2007, Spencer et al 2010). “Innovation systems”, “clusters”, and “networks” are all buzzwords commonly used by political decision-makers to foster regional development in sparse and geographically remote regions in Europe (Huggins 2001, Hallén et al 2009a). The creation of relationships is a key issue in all these different government-funded projects and collaborative arrangements. The arguments for public intervention in the so called free market are still controversial and subject to debate (Glavan 2007). Nevertheless, these concepts seem to survive and prosper as frequently used tools in regional economic policy. When the initiatives or the concept of regional strategic networks are used as tools by regional decision-makers for collaboration between firms, the public sector and the academic sphere are often encouraged to participate (Sölvell 2009). This triad of actors joining forces to contribute to a flourishing regional economic development is often referred to as a triple helix and is intended to support an information flow between these sectors.

The focus on building “clusters” by policymakers has been questioned, and there is an ongoing debate regarding this issue in academia. Policymakers facilitate network formation in order to stimulate the flow of information between the regional actors and create knowledge spillovers within the region (Wictorin 2007). This is something of a change of agenda for political policymakers since their traditional role “is to secure operating conditions that provide competition and transparency” and not to subsidize cooperation (Hallén 2005). Braconier (1999) questions this development by claiming that there is no real scientific evidence that backs up the notion that regional specialization will lead to regional growth. He claims that the subsidies that are handed out to regional cluster initiatives create unhealthy shifts in global competition and therefore distort the marketplace. Braconier claims that there is a danger in creating such a shift without having the scientific data to back up the significance of so called cluster construction. On the other hand Berggren et al (1999) claim that instead of focusing on national economic policy the policymakers should “focus on spatial concentrations that combine competition and collaboration since this has a tendency in creating the capacity for durable development”.
This standpoint is based on the findings that the importance of well developed clusters increases together with increasing globalization. Berggren et al support this premise by putting forward Silicon Valley, northern regions in Italy and the GGVV-region in Småland as telling examples of these developments (Berggren et al 1999).

Despite the criticism of building cluster initiatives and regional strategic networks, if the policymakers on the regional level do become actively involved in the local business market their actions should be carefully analyzed and scrutinized. Sotarauta sums up the current state claiming that

[p]eople responsible for regional development often understand fairly well the need to construct regional advantage and build clusters. [...]But what they have not been given much advice on is how to do it – how to create networks for these purposes, how to direct and maintain them, how to lead complex policy networks.
(Sotarauta 2010:387)

Further research is therefore needed on how policymakers should manage the process of creating networks or facilitating innovative regional development. In this thesis I will concentrate on the impact that regional socio-economic contexts have upon this process. The concept of social capital is central to my analysis and the design and implementation of a regional strategic network will be studied using this discourse.

1.2 The research problem
Koschatzky and Kroll propose that to implement science, technology and innovation (STI) policies for regional growth

[the design of an efficient regional STI policy requires a combination of regional intelligence (i.e. the ability to understand the local socio-economic context and enterprises' needs) with strategic intelligence and policy-learning capabilities (i.e. the ability to set political goals and develop appropriate policy instruments), in order to avoid undesirable volatility in the policy system.
(Koschatzky and Kroll 2007:7)

The socio-economic context within a region is often explained in the socio-centric form of network research by the term social capital (Adler and Kwon 2002). Understanding the concept of social capital and its creation within the socio-economic context of a region is therefore vital for understanding how to implement policies concerning cluster initiatives and regional strategic networks.

Social capital is a term often used in the socio-centric form of social network research and is less commonly used in the more ego-centric focused business network research (Slotte-Kock 2009). Hence, the term is sometimes neglected in studies of regional strategic networks and their implementation on the business level. In this thesis I draw on influence from the body of work in both business network research and social network research, and thereby broaden the field of study of regional strategic networks with a more transactional and social network influenced perspective. My thesis therefore analyzes a regional strategic network using the discourse that regards the concept of social capital as the main tool of analysis.

In the creation of network policies the focus is on cooperation rather than competition, and the emphasis is therefore on consensus, sharing of know-how and resources (Sölvell 2009, Muro and Katz 2010). To reach such consensus the manager of a strategic network should, according to Jarillo (1988), choose the companies that he wishes to include in the network design carefully. A better breeding ground for trust can be created if the actors included in the network can “relate to each other” and share the same values. Norms and social trust are often viewed as entities that facilitate coordination and cooperation for mutual benefit, and these norms are in turn facilitated by the creation of social capital (Coleman 1990, Bourdieu and Wacquant 1992, Putnam 1995, Nardone et al 2010). However, the same ties that create norms and trust can also serve as lock-ins that isolate the organization from the outside world and over-embed the network in its own social context (Grabher 1993, Uzzi 1996,
Gargiulo and Benassi 2000, Parra-Requena et al 2009, Molina-Morales and Martinez-Fernández 2009). The features of social capital may therefore bring not only positive effects to a network, but may also impose risks that can outweigh the benefits in some circumstances. Slotte-Kock (2009) argues that researchers representing all network approaches agree that networks provide both opportunities and constraints, and pinpoint this as the most significant network paradox with interest for further research.

Molina-Morales and Martinez-Fernández (2009) claim that there is a lack of existing literature that explores the negative effects of social capital empirically. Osborne et al (2009:214) claim that “much of the social capital literature relies upon the assumption that social capital arises from participation in a uniform fashion, and leads to beneficial outcomes for all involved rather than considering how participation in some types of groups, in some situations, may be beneficial, whereas other types of participation in different contexts may not”. According to Alguezau and Filieri (2010) most scholars have highlighted the benefits of cohesive and sparse networks, failing to analyze more deeply their detrimental effects. Alguezau and Filieri (2010) therefore suggest that future research exploring social capital should close the gap and empirically prove the benefits of a balanced approach.

This thesis is intended to contribute a more nuanced picture of the concept of social capital to the discourse, and thereby add an empirically grounded contribution to how the construct of social capital might be used to analyze a regional strategic network.

Lindberg (2002:37) claims that “Söderhamn as a region is a typical example of an industrial community situated in a peripheral region, which has sprung from regional natural resources, and has characterized the Swedish industrialization”. He therefore states that the socio-economic context that has shaped the business climate within Söderhamn is a typical example of the socio-economic context which all former industrial communities in Sweden have to face. The business milieu of peripheral regions is often dominated by a single or few employers that guarantee the livelihood of the majority of the regions’ inhabitants. This industrial history in turn has a profound impact on the socio-economic context of peripheral regions (Hammar and Svensson 2000). This socio-economic context shapes the formation of social capital in peripheral regions and therefore has an impact on the creation of strategic networks. Studying the design of a regional strategic network in a region like Söderhamn therefore will therefore provide valuable insights into how the conditions in a peripheral region impact the formation of regional networks.

This thesis serves to add a social network inspired contribution to the discourse of business networks and regional strategic networks. I focus on the effects that social capital may produce in the context where a regional strategic network operates, in order to portray a nuanced and empirically grounded picture of these effects. I describe a regional strategic network were novel network structures and new weak ties are created at the same time as existing network structures are diluted. This sheds light upon the paradox facing managers of regional strategic networks in their decisions to either strengthen existing network structures or to encourage new network connections to be created.

1.3 Purpose of the study

Social capital is believed to promote the networking process (Tsai and Ghoshal 1998, Adler and Kwon 2002, Dhanaraj and Parkhe 2006). However, the concept is described as a “wonderfully elastic term” (Lappe and Du Bois 1997:119) and its definition and consequence in a network setting is yet to be fully understood (Adler and Kwon 2002). There are generally two main schools of thought concerning the definition of the social capital concept: bridging and bonding (see section 4.2) (Putnam 2000). These two definitions derive from a difference in foci, and researchers often choose to focus exclusively on one of these forms of social capital, neglecting the other. Longitudinally analysis of the process of designing a regional strategic network using both these concepts as tools therefore broadens the discourse of social capital in network settings.

Researchers representing all network approaches agree that networks provide both opportunities and constraints. It is common for researchers to focus solely on either the constraints or the opportunities, and there is a lack of existing literature that explores the negative effects of social capital empir-
ally (Slotte-Kock 2009, Osborne et al 2009, Molina-Morales and Martínez-Fernández 2009, Algue-
zau and Filieri 2010). Consequently, focusing on both these aspects sheds light on the paradoxes and 
thereby paints a more nuanced picture of the creation of social capital within a network context.

The purpose of my study is to describe the development of a regional strategic network and how it 
affected network connections and to analyze this in terms of bonding and bridging forms of social cap-
ital.

1.4 The SLIM-project

The SLIM-project (Systems Leadership within Innovative environments and cluster processes in 
northern Mid-Sweden) is a telling example of an initiative where the planning aspects and cooperation 
between firms, the public sector and the academic sphere are used in order to facilitate regional 
growth. SLIM can be described as an “umbrella” organization which unites the forces of cluster initia-
tives and regional strategic networks within the Swedish regions of Dalarna, Gävleborg and Värmland.
The project includes 15 different cluster organizations that incorporate 700 companies, which employ 
over 60 000 employees (Region Värmland, www.regionvarmland.se). The project is founded on an 
explicit intention to achieve active cooperation between the cluster organizations and the regional aca-
demic institutions.

The set goal for the SLIM-project is stated on its website as follows:

Within the SLIM-project we provide cluster initiative managers with support for the process of building clusters in the form of mentorship and competence development, annual feedback to the companies within the cluster organization, and a joint learning experience regarding how regional innovative milieus can develop through a dialogue between cluster initiatives, the industry, universities, politicians and other national actors.
(Region Värmland, www.regionvarmland.se) [Author’s translation]

The project is funded in accordance with the EU development fund for regional growth and Vinnova. My doctoral studies are partly funded by the SLIM-project and I am to contribute to the learning process regarding cluster initiatives and regional strategic networks within my region. I represent the region of Gävleborg and am therefore based at the University of Gävle, the academic institution representing the Gävleborg region. The contribution I wish to bring to the field is specified in my employment contract. I will therefore analyze a regional strategic network within the region of Gävleborg.

This licentiate thesis is presented at Mälardalen University where I am enrolled. Through Mälardalen University I am also a member of the Swedish research school of Management and Information Technology (MIT). This Research School is headed by Uppsala University and is a cooperation between 10 Swedish universities. The research at MIT is divided into three main areas – economic information systems, business administration and informatics. The regional strategic network studied in this thesis contains a coalition of several companies active in the IT sector. This thesis contributes to the business administration area of the MIT research school and will be presented as such.

1.5 Outline of the study

Section 1. Introduction: In this section I present the discourse that entails using the concept of de-
nigned networks and cluster initiatives in order to achieve regional economic growth. The discourse establishes the notion that using cluster building concepts in political policy is widespread. Research in this field is consequently of great importance. Based on this discussion I formulate my research question and purpose of study. I also present the SLIM-project to which I am a contributor.

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1 Vinnova is a public authority set up to govern Sweden’s innovation goals.
Section 2. Defining networks: In this section I define the two aspects of network research - business network research and social network research. These two definitions will form the other sections in which I present my theoretical framework.

Section 3. Business networks and regional strategic networks: This section focuses on business network research and specifies the concept of a regional strategic network. This discussion results in the presentation of an analytical model for regional strategic networks (figure 2) which forms the framework for the sections that make up the analysis of the studied case. Aspects on creating trust and orchestrating innovative networks are also addressed.

Section 4. Social networks and the concept of social capital: This section focuses on social network research and defines the concept of social capital. The discussion results in a matrix displaying the effects of social capital on a network structure (figure 3). This matrix forms the main analytical tool used in my analyses.

Section 5. Methods: In this section I present the methods I used in the collection of my data. This thesis consists of a case study and the methodological approach used is therefore presented.

Section 6. Case description: In this section I present the case that is analyzed in this thesis. First, I describe the region in which the strategic network project of Firsam is situated; second, I describe the socio-economic milieu in the region since this is a concept related to social capital; I then describe the studied regional strategic network in detail. Thereafter I present the quantitative data collected in order to portray the network structure of the Firsam project in 2004 and in 2010.

Section 7. Analyzing the network design: In this section I describe both the process of formation of the regional strategic network and its composition at a particular timepoint.

Section 8. Analyzing the network cooperation activities: In this section I analyze the activities that constitute the arenas of collaboration. The interactions between the companies and the communication that takes place within the studied network are also examined.

Section 9. Analyzing the cooperative attitude in the network: In this section I analyze two different factors relating to the cooperative attitude in the studied network - the commitment made among the companies to the network endeavor and the trust generated among the companies.

Section 10. Analyzing the effects of the network on a business level: In this section I analyze the effect that the studied network had on its member companies.

Section 11. Analyzing the effect of the network on a regional level: In this section I analyze the effect that the studied network had on the region.

Section 12. Discussion: In this section I discuss my analysis and provide a broader overview of the different sections of my analysis.

Section 13. Conclusion: in this section I present my conclusions in the form of a matrix (figure 11) and discuss ideas for further research based on my findings.
2. Defining networks

Slotte-Kock (2009) distinguishes between business network research and social network research and argues that these two schools of research often have significantly different foci in their approaches. Business network research studies inter-organizational relationships, hence the name “business network”. This type of research is based on the works of the IMP group (Industrial Marketing and Purchasing Group) and focuses on relationship formation and how relationships develop within the ties that constitute a business network (Håkansson and Snehota 1995). The focus is often on long-term interactions that take place within the network and that can change in content, strength and importance (Slotte-Kock 2009). The development of a network is viewed as an ongoing process of cumulative change between dyads and the process of how these dyads change is also analyzed in relation to the entire network. Social network research studies have traditionally been focused on the individual level (Granovetter 1983), but nowadays they focus on structural analysis of entire networks. Characteristics such as tie content, network size and density (Owen Smith et al 2002) or network structure (Coleman 1988, Burt 1992) are being analyzed on both an individual and a business related level. Instead of focusing on the interaction based relationships within the network as business network research often does, social network research perceives the relationships within the network as transactions. The change of ties within the network over time is analyzed, and the focal point of interest is on how this change affects the structure of the entire network (Slotte-Kock 2010). As the relationships analyzed within the network are seen as transactions, the term social capital is widely used in social network research. The structure of the network is viewed as a source of power and influence for a focal actor. This structure is therefore of interest in social network theory, and is often referred to in terms of social capital.

In this thesis I draw on the body of work in both business network research and social network research. I have studied the phenomenon from a business network research point of view since the relationship between the actors in the network needs to be investigated. The transactions that these relationships facilitate in the form of social capital have also been studied in the tradition of social network research. I have therefore broadened the field of study within regional strategic networks with a more communal and social network influenced perspective.
3. Business networks and regional strategic networks

Slotte-Kock (2009:9) argues that “one should assume that since so much research has been carried out in a variety of contexts regarding networks that an accepted overall definition could be found; however this is not the case at present. Networks remains a term which is applied in different contexts with different meanings”. A network consists of a set of actors that are connected by a few or more relations that are often referred to as ties (Axelsson and Easton 1992). The term “actor” that often signifies a node within a network can constitute an individual, an organization or even a group of individuals (Håkansson and Snehota 1995). The “ties” often indicate a flow of a variety of resources such as information, knowledge or economic exchange. These “actors” are held together in the network by the ties and the relationships between the actors and the ties constitute the network structure (Uzzi 1997). These ties or relationships can be measured and valued but the way in which value is attributed to these ties varies depending on the flow of resources that the ties indicate. Slotte-Kock (2009) argues that all network approaches agree that networks provide both opportunities and constraints and pinpoint this as the most significant network paradox. It is in the further investigation of this paradox that this thesis makes its contribution to general network theory.

3.1 Business network research

Ronald Coase (1937) introduced the term transaction cost and thereby defined the circumstances in which a network might be an alternative to large corporations or a fluctuating market. A corporation is forced to shrink when the administrative cost of maintaining it exceeds the transactional costs that would be incurred if the resources created within the organization are obtained elsewhere. A small corporation on the other hand is often dependent on resources from other organizations to operate, which in turn creates the aforementioned transactional costs. In order to minimize the transactional costs of obtaining resources in an ever fluctuating market, companies often create lasting relationships with some of their strategically important suppliers. These can be in the form of formal long-term contracts or informal relationships based on a proven track record. These relationships form what is defined as a network and help to reduce the transactional costs of an organization, since the organization can rely on existing relationships instead of searching the entire marketplace before every transaction.

Since their introduction into the academic arena, the building and maintenance of networks have become much studied phenomena in the strategic development of modern companies. Fluctuating markets have forced modern organizations to “slim down” or downsize and to outsource everything within the organization that is not directly connected to the organization’s core competence (Edgren and Skärvad 2010). An increasing number of interconnected organizations are therefore becoming involved in the life cycle of a product, from the raw material to customer delivery and subsequent augmented services. A single company’s organization therefore cannot include and internally control the creation of the entire customer value. The customer value is created in the interplay between the company and the other organizations in its network, which in turn makes networking a crucial part of a company’s strategic planning (Ibid.). The study of networks is therefore of utmost importance in understanding how a “slimmed down” and flexible organization can utilize resources that lie outside of its direct control.

The initial notion of industrial districts was introduced by Marshall (1925). The “Marshallian” or agglomeration economies are defined as firms that agglomerate in a certain region to incur spatial benefits such as qualified human resources, specialized suppliers, and technological spillovers. Pérroux (1950) later developed the notion that the geographic space plays a role in business development.
Pérroux claimed that the geographic space from which an industry operates consists of a set of dynamic socio-economic relationships that evolve over time and consequently bind economic actors together (Nuur 2005). In other words, human relationships, economic reasoning and availability of resources all interact in the development of industry. According to Perroux (1950) these indicators bring forward the idea that the linkages between economic actors and the development of a particular sector or niche in the economy are dependent on the geographical space in which they occur. For this reason some geographical regions will prosper and others will decline. This is all part of the industrial dynamics that are in a permanent state of flux. A territory is not homogeneous, which is why some territories do better than others in a particular niche. Like Schumpeter (1943), Perroux (1950) uses the notion of creative destruction and points out that some regions foster a better climate for innovation and development and therefore conquer the industry, eliminating competing actors in other territories. Perroux (1950) thus claims that territory, and not the operations of a single firm, should be the target of further investigation in explaining fluctuations in the market.

Michael Porter (1990) discusses the term “cluster”, and thereby involves the dimension of space in the network arena. Porter discusses the phenomenon where some regions stand out as prominent competitors in a certain field, thereby attracting growth and entrepreneurial development within their own niches. His “diamond model” specifies specific factors that explain this phenomenon. In conclusion the model puts forward the idea that a company may benefit from its spatial location because of the resources that are made available there. The geographic space that constitutes the scope of a region is still unclear and therefore debatable. Porter focuses on larger spatial dimensions such as nations, but his definition of a cluster has become widespread and often also includes much smaller spatial entities such as small peripheral regions like Söderhamn. The introduction of space as a significant competitive advantage has not surprisingly also evoked the interest of municipalities and other organizations with an interest in the growth of regions.

3.2 The interaction approach within business network research

David Ford (1982) includes theories regarding clusters, represented by Porter (1990) and Williamson (1975), in what he calls “the new institutionalists”. Ford describes the notion that formed the new institutionalism as a micro-economic theory stemming from a criticism of traditional economic theory. This notion is illustrated by Williamson’s theory regarding transaction costs, explained above in relation to Coase, which distinguishes between two ways in which the exchange (transaction) may be performed between technologically separable units in a production process. The exchange can be undertaken in a market setting or in a network, or secondly, it can be internalized within a single organizational unit. According to Ford, the new institutionalists’ view on networks is lacking in four different perspectives. These shortcomings in explaining the market have spurred what he calls the interaction approach.

The perspectives representing the interaction approach are as follows. Firstly, Ford (1982) claims that both buyer and seller are active participants in the market. Secondly, the relationship between the buyer and seller are often long-term and involve a complex pattern of interactions between them and within the companies themselves. Thirdly, the links between the buyer and the seller often become institutionalized into a set of roles, which require some adaptations to be made by both the seller and the buyer. Fourthly, the relationship between seller and buyer is often considered in the context of continuous raw material or component supply. Ford (1982) claims that the relationships are also influenced by other exchanges, including previous exchanges, mutual evaluation and social relationships between the companies.

Johanson and Mattsson (1994) claim that the business network approach (which stems from the interaction approach) serves as a welcome contrast to other structures for economic systems, like the transaction cost approach. The transaction cost approach, in explaining the relationship of networks to markets and firms in accordance with Oliver Williamson (1975), is described by Johanson and Mattsson (1987) as stemming from the neoclassical framework of analysis. This is because the notion of using transactional cost to explain companies’ actions in the marketplace is the result of a focus on
market equilibrium. The network approach does not focus on this variable as it focuses instead on a system of connected relationships. The relationships involve suppliers, customers and other actors, and the actors have control over each other. These organizations are therefore not “pure” hierarchies. The transactional cost approach focuses on explaining “why and when activities are coordinated within or without a firm” whereas the focus of the network approach lies in explaining the coordination among the firms (Johanson Mattsson 1987).

The concept of the transactional cost approach usually entails a belief that the actors in the system act rationally. Since the transactional cost approach is based on the reduction of transactional costs in relation to the organizational costs of in-house production, the actual costs of these variables must be known to the actor. The actor must therefore have access to all the information to be able to act rationally for market equilibrium to be reached. On the other hand, the network approach is, if not explicitly, than at least implicitly based on bounded rationality. The actor is immersed in his or her social structure and acts according to this premise. Snehota (1990) claims that that the structure of an actor network is based on the actors’ choices whether to enter into a relationship or not, and once involved in a relationship, how much to invest in it in terms of time, money and trust (Hallén and Lundberg 2004). These choices cannot be based on a complete awareness of an actor’s specific network location because it is impossible for an actor to analyze his position within the network. An actor cannot see beyond his network horizon, which is based on his cognitive context, and decisions are therefore a result of bounded rationality (Snehota 1990).

Johanson and Mattsson (1987) claim that this principal difference between the approaches makes them more or less suitable for different types of analysis. The transaction cost approach, because of its focus on conditions for market equilibrium, is deterministic and therefore less suitable for strategic analysis. The network approach on the other hand, stresses the action possibilities of the firm and is therefore a more useful tool for analyzing strategies and approaches to different markets (Johanson and Mattsson 1987).

When addressing the Marketing Science Institute in 1991, Kotler claimed that “the paradigmatic orientation of marketing moves from transactions to relationships to networks”. Johanson and Mattsson (1994) follow up on this quotation and state that there is an ongoing research tradition, based largely in Sweden, which brings the network approach to the forefront of discussion in marketing and other related subjects. They define the network or the interaction approach as a “subset of exchange relationship approaches” and contrast this approach with the marketing-mix approach which is defined as a paradigm where “the seller acts and the buyer reacts”. The interaction approach was heavily influenced by social exchange theory and resulted in the IMP project that included the collection and analysis of around 1,000 business relationships between industrial suppliers and customers in five European countries. The IMP project resulted in many interesting findings confirming the role of lasting relationships in the marketplace (Johanson and Mattsson 1994). Hallén et al (1991) concluded that the patterns of exchange and adaptation processes between customer and seller vary depending on the interaction strategies of the parties and the history of their relationship, confirming that the interaction processes of a firm are vital both in marketing ventures and in the organization of the firm.

In my research I focus on the interaction between the firms included in the Firsam project and how these interactions affect the context-related social capital. The theories stemming from the interaction approach will therefore form the bulk of my theoretical framework.

3.3 Regional strategic networks

Hallén et al (2009a) help in furthering the definition of networks and clusters. They define clusters as spatial networks that have grown and developed organically over time, and contrast them with regional strategic networks that are defined as constructed entities. Jarillo (1988:32) defines a strategic network as a “long-term purposeful arrangement among distinct but related for-profit organizations that allows those firms within them to gain or sustain competitive advantage vis-à-vis their competitors outside the network”. Jarillo also clarifies that he added the term “strategic” in the attempt to define a strategic network as “a mode of organization that can be used by managers or entrepreneurs to position
their firms in a stronger competitive stance”. The term “strategic” is therefore used as an indicator to specify that the network is managed knowingly by one or several participants. Hallén, Johansson and Roxenhall (2009a) identify the following structure of company cooperation:

![Figure 1: Different cooperative patterns between business firms.](Hallén et al 2009a)

In my research I focus on a regional strategic network, which I define as a cooperation project between companies in a region with the support of public agencies and other organizations in order to stimulate regional and business development. Regional strategic networks operate as temporary organizations due to the project-related conditions of their funding at the initiation stage. Thereafter they aim to create a self-organized arena for cooperation and joint development that is supposed to have long-term effects (Lundberg 2008). Inter-organizational networks such as regional strategic networks may thus be of “long-term, purposeful, deliberate character” (Lechner and Dowling 1999). Cluster initiatives, on the other hand, are tools to further develop clusters or already existing self-emerging regional cooperation. They are “organized efforts to enhance the competitiveness of a cluster, involving private industry, public authorities and/or academic institutions (Sölvell et al 2003).” Regional strategic networks, unlike cluster initiatives, may thus be of “long-term, purposeful, deliberate character” (Lechner and Dowling 1999).

Cluster initiatives, on the other hand, are tools to further develop clusters or already existing self-emerging regional cooperation. They are “organized efforts to enhance the competitiveness of a cluster, involving private industry, public authorities and/or academic institutions (Sölvell et al 2003).” Regional strategic networks, unlike cluster initiatives, thereby initiate collaboration where such activities are believed to be absent prior to third party investment. Cluster initiatives, regional strategic networks and strategic networks are all centered on a “hub” of one or more individuals, or one or more companies acting as coordinator and relationship facilitator (Jarillo 1988, Lundberg 2008). In this thesis the “hub” consists of a governmentaly funded managing group set up to strategically manage the formation of the Firsam project. I therefore refer to the “hub” within the Firsam regional strategic network as the “network management group” since the term “hub” often refers to commercial actors who strategically manage a network out of their own commercial interests.

For a strategic network to survive and flourish when it is no longer supported by external funding Jarillo (1988) claims that it must meet the same criteria that any organization must meet in order to justify its existence. Jarillo refers to Barnard’s criteria for the justification of organizations which postulate that an organization must be effective and efficient in order to survive, effective in the sense that it achieves the desired end, and efficient in the sense that it offers more inducements to the members of the organization than the members put into it. Jarillo believes that a network will prosper if these criteria are met, since the gain to be accrued from being a part of the network is superior to the benefits from going it alone.

The development of relationships and trust are significant for the development of a strategic network (Jarillo 1988). Relationships are generally developed as a result of a long-standing sequence of interactions (Håkansson and Johanson 2001, Håkansson and Ford 2002). They are characterized in terms of mutuality, long-term character, a process nature and context dependence (Holmlund and Törnroos 1997). The organization of a regional strategic network is often in the form of projects that only allow financing for short periods of time. This transient nature constitutes a challenge to relationship development. Hallén and Lundberg (2004) put forward the notion that even if a strategic network dissolves after a comparatively short period of time and thereby fails to reach its goals, the included
actors can learn from the experience and thereby be more open to cooperation in the future. Draulands et al (2003) cite a report published by KPMG Alliances which indicated that 60–70% of all inter-firm alliances fail within four years. However, they claim that companies that are experienced in managing alliances do better in attempts to create new alliances. Therefore, instead of focusing on the fit between the companies and the characteristics of the alliance, it is more fruitful to look at the capabilities of the companies to manage the alliance. Draulands thereby portrays the ability to form lasting alliances as an art that must be learned, and even suggests that a firm might hire specialists in managing alliances in order to make the best use of their networks.

Hallén et al (2009b) developed a model for analysis of regional strategic networks. This model looks at the structural preconditions in the network and the activities undertaken and their impact on the companies and on regional development. In my research I focus on the “network design” part of the structural preconditions in the model and the “cooperative attitude” part of the activities undertaken, as I believe that the impact of social capital is most evident in these parts of the model. The model presented below (figure 2) forms the structure of my analysis and the representation of my empirical data. The headings in Sections 7–11 of this thesis are named in relation to the variables in the model.

The choice of aspects within the model that I include in my analysis is based on the empirical data and is therefore coherent from an inductive research perspective (see section 5.2). Some of the variables included in the model (figure 2) did not manifest themselves in the empirical data, and were therefore not included in my analysis.

![Analytical model for regional strategic networks.](Hallén et al 2009b)

### 3.4 Managing or orchestrating a regional strategic network

Orchestration of a strategic network involves triggering the development of business related relationships between firms (Doz et. al 2000). An important aspect to consider in orchestrating a strategic network is the presence and character of context-related social capital, as social capital is believed to promote the networking process (Rosenfeld 1997, Adler and Kwon 2002). As my thesis focuses upon the creation of social capital within regional strategic networks I consider the orchestration of relationships within strategic networks to be of interest.

The so-called “hub firm” is significant to strategic networks according to Jarillo (1988). This firm sets up the network and develops the relationships within it. The hub firm establishes external relationships for a set of transactions that other firms must internalize, given the high cost to them of having these transactions performed externally (Jarillo 1988). Dhanaraj and Parkhe define the hub firm in a similar fashion, as “one that possesses prominence and power gained through individual attributes and a central position in the network structure, and that uses its prominence and power to perform a leadership role in pulling together the dispersed resources and capabilities of network members” (Dhanaraj and Parkhe 2006:659).
In the case of Firsam, the governmentally funded network management group represents the network hub. It had responsibility for orchestrating the design of the network and organizing the activities undertaken in collaboration with the included firms.

It is obvious from Dhanaraj and Parkhe’s (2006) and Jarillo’s (1988) further reasoning that their definition of a hub firm entails the hub firm being a commercial entity or firm and therefore acting out of self-interest in “orchestrating” the network. In the case of Firsam the hub firm was a government funded entity formed solely to govern the network design without any other interests apart from making the network function for the benefit of the other members. This difference in definition obviously affects the nature of the hub firm and how it orchestrates the network, but Dhanaraj and Parkhe’s description of the attributes and actions that distinguish a hub firm is nevertheless a useful theoretical framework even when the hub firm is represented by a governmentally funded entity. The centrality and the main function of the hub firm within a network remains the same, even if the motivation of the hub firm might differ.

Coordination of multiple, not always committed, unrelated, independent and often competing member organizations involves uncertainty. This constitutes a challenge and is an intricate part of managing or orchestrating a regional strategic network (Human and Provan 2000). Orchestrating a network involves the coordination and sharing of information (Lorenzoni and Baden Fuller 1995). Thus building and maintaining intricate relationships in inter-organizational networks in order to share knowledge and resources, to develop shared policies, and to form regulations and social norms is a complex challenge (Imperial 2005). Dhanaraj and Parkhe (2006) focus on what they call “innovation networks”, defined as “loosely coupled systems of autonomous firms”. The explicit goal of orchestrating a regional strategic network according to Dhanaraj and Parkhe is to facilitate inter-organizational innovation in order to gain competitive power for a focal actor. To facilitate such competitive power, the orchestration of relationships must be actively managed. In orchestrating the network Dhanaraj and Parkhe define three interconnected processes: managing knowledge mobility, managing innovation appropriability and managing network stability (Dhanaraj and Parkhe 2006). These processes are important for creating a functioning strategic network and trust among the members of such a network. These processes will be discussed in the next three sections.

3.4.1 Managing knowledge mobility
Dhanaraj and Parkhe (2006) base the knowledge mobility process on what Hargadon and Sutton (1997) call technology brokering. The idea behind technology brokering stems from the notion that

[i]deas from one group might solve the problems of another, but only if connections between existing solutions and problems can be made across the boundaries between them. When such connections are made, existing ideas often appear new and creative as they change form, combining with other ideas to meet the needs of new users. These new combinations are objectively new concepts or objects because they are built from existing but previously unconnected ideas.

(Hargadon and Sutton 1997:716)

In the manner described by Hargadon and Sutton, Dhanaraj and Parkhe believe that knowledge must be made accessible to all members of the network in order to create real synergies in the form of innovation (Dhanaraj and Parkhe 2006). The knowledge of one firm in the network design might benefit another firm in a way that was unknown to both firms before the exchange of knowledge took place. The hub firm must create an environment that facilitates such knowledge exchange in order to generate the synergistic effect of technology brokering.

3.4.2 Managing innovation appropriability
If properly managed, mobility of knowledge within a network will create value for the included firms, according to Dhanaraj and Parkhe (2006). In order to facilitate mobility the hub firm must manage the distribution of this value in a fair manner, so that the firms included in the network design believe that they are treated equally. The problem of so called free riders within a network must be minimized so
that the firms are willing to share their knowledge freely within the network. Free riders are actors within the network who add little to the knowledge and innovation process but reap the rewards in an opportunistic way. Jarillo links the discussion of a “fair sharing mechanism” with the problematic paradox of acting opportunistically within a network against the best interests of the network as a whole (Jarillo 1988).

A problematic issue in strategic networks is that the network is engineered and is therefore the result of opportunistic behavior by at least some of the actors within the network. Lack of trust is a significant cause of transactional cost and is therefore a threat to any organization, whether it is a network or a firm. Williamson defines the connection between trust and transactional cost as “opportunism is a central concept in the study of transactional-cost” which brings attention to the paradox of opportunistic behavior being both the reason for, and the threat to engineered networks (Williamson 1979:234). Coleman (1988) claims that the basic problem of coordinating relationships between firms is the heightened threat of opportunistic behavior. Coleman therefore claims that the benefit of building inter-firm networks in any context is dependent on the creation of trust between the firms. Jarillo (1988) pinpoints the skill of creating trust as one of the most important entrepreneurial skills needed in creating economically viable networks. Jarillo specifies the element of trust in a network as the reliance of actors on others to fulfill their explicit or implicit transactional obligations. The element of trust therefore reduces the need of actors to predict unforeseeable consequences in the network, thereby reducing the transactional cost in the handling of the risk of making a transaction (Jarillo 1988). In addition, the element of trust creates an environment that fosters the innovation that is a commonly proclaimed benefit of networks. Trust facilitates the sharing of information which in turn is needed to create an innovative environment through knowledge mobility.

According to Jarillo (1988), the entrepreneur should choose carefully the companies that he wishes to include in the network design. A better breeding ground for trust can be created if the actors included in the network can “relate to each other” and share the same values. Therefore, the management of innovation appropriability starts as early as at the network design stage in Dhanaraj and Parkhe’s model (Jarillo 1988).

Ahuja (2000) claims that the development of shared norms of behavior and explicit inter-organizational knowledge-sharing routines also grows over time, but that shared norms must be put into place in order to create an element of trust. According to Williamson (1985) the strength of an appropriability regime does not rely on writing lengthy contracts but on social interactions such as trust and reciprocity. According to Dhanaraj and Parkhe (2006) the hub firm must take an active role in creating trust through social interactions with the network members.

The trust aspect of working towards creating strategic networks can also be explained through the acquisition of social capital. Social capital represents the relational resources attainable by actors through social relationships (Bourdieu and Wacquant 1992). Trustworthiness is an important part of an actor’s social capital and relates directly to an actor’s ability to create strategic networks (Coleman 1990). Houghton et al (2009) claim that there is a direct link between a firm’s social capital, the firm’s involvement in external networks and the firm’s strategic complexity. If a firm is involved in many external networks, it develops strong social capital. Firms with strong social capital also have more complex strategic development, with a wide variety of products and product development. Houghton et al therefore imply that a firm that has strong social capital is more active in its product development, and social capital is therefore an important factor in a firm’s innovation process. According to Houghton et al this connection between social capital and innovation shows that spatially isolated firms benefit from network relationships, something they claim is lacking in most research regarding industrial clusters. Shan et al (1994) also make a clear connection between the number of collaborative relationships a firm develops and its innovation output. The more relationships the firm develops, the more innovation output it generates. Shan et al (1994) base this hypothesis on research about start-up firms in the heavily technology based biotechnology industry in the US.

Besides focusing on the elements of trust and social capital, Dhanaraj and Parkhe (2006) claim that a hub firm can ensure equitable distribution of value by focusing on the processes of procedural justice and joint asset ownership. According to Dhanaraj and Parkhe (2006) the hub firm might use several different principles of procedural justice to create a mutual feeling of procedural justice within the
network. The principles used might include “bilateral communications, ability to refute decisions, full account of the final decisions and consistency in the decision-making process” (Dhanaraj and Parkhe 2006:663). The problem of joint asset ownership in patent and joint ventures must be met with a solution early in the life of the network in order to solve any problems that might occur further down the road. If these problems are taken care of, the actors within the network will feel secure enough to share their knowledge without restrictions (ibid.)

Jarillo points out what he believes to be a common misconception regarding networks. The dismantling of a major firm in subcontracting some of its production is not a way for a major company to export some of its risk to smaller defenseless subcontractors (Jarillo 1988). This notion contradicts the assumption that a network must be built on trust and therefore also on risk sharing, according to Jarillo. A network where a major firm exports the risk to smaller firms will not be durable over time and will therefore not be beneficial in reducing the transactional costs of the included firms from a long-term perspective. A feeling of mutual risk taking is prevalent in all successful networks according to Jarillo, and a network design where the larger firm gains flexibility and absorbs some of the smaller firms’ risk-taking is important for creating continuity (Jarillo 1988). A feeling of shared risk might therefore be a prerequisite for managing innovation appropriability.

3.4.3 Managing network stability

Network stability poses an interesting dilemma in innovation networks and in all strategic networks as “On the one hand, being loosely coupled organizational forms, networks possess the twin virtues of adaptation and agility. On the other hand, excessive erosion of network ties can lead to instability, which in turn, can significantly impair innovation output” (Dhanaraj and Parkhe 2006:663). A network must in other words be both flexible enough to include a never-ending input of diverse knowledge, and stable so that a feeling of trust can be built among its members on a long term basis. To build stability Dhanaraj and Parkhe (2006) suggest that the hub firm should enhance the reputation of the network by lengthening the shadow of the future, and by building multiplexity.

The benefit of building a strong reputation for the network among existing firms in the industry is twofold: to be able to attract new firms into the network if needed and to make sure the existing firms in the network will be hesitant to leave. If the risk of losing the association with a reputable network will make the existing firms in the network hesitant to leave, an element of trust between the firms will also be easier to build. Trust can therefore be built by the mere notion that a firm will not act opportunistically because of the risk of losing its association with a reputable network (Dhanaraj and Parkhe 2006).

Dhanaraj and Parkhe (2006) claim that the hub firm should lengthen “the shadow of the future” by connecting future success with the firm’s present willingness to cooperate in the network. They described the process as follows:

Through the expectation of reciprocity — and its corollary, anticipated gains from mutual cooperation — the future casts a shadow back on the present, affecting current behavior patterns. This bond between the future benefits a network member anticipates and its present actions is called the “shadow of the future”. (Dhanaraj and Parkhe 2006:664)

If the “shadow of the future” is stretched, a firm does not leave the network as it anticipates future rewards for being loyal to the network idea. Stability is therefore gained through the promise of future rewards (Dhanaraj and Parkhe 2006). Jarillo (1988) claims that it is the longer time frame within which the actors put their interactions that makes a strategic network beneficial. Not only do the long-term relationships generate trust, they also open up the opportunity to look beyond the zero-sum game of transactions between buyer and seller where each dollar gained by the supplier is a dollar lost by the buyer. The longer time perspective will make it clear that the success of the supplier is often linked to the success of the buyer and that their fate might therefore by intertwined.

The notion of multiplexity is best explained by the belief that a large number of close relationships between firms in a network make a firm more hesitant to leave, since an abandonment of one relationship may cause other relationships to cease. A firm may not want to leave a network if it feels that an
abandonment of the network is perceived as a betrayal by the other firms, thereby causing their exclusion from all contact with other affiliates. Upholding a relationship may in this respect be a way in which a firm seeks to please a third party, and not an end in itself (Dhanaraj and Parkhe 2006). The entrepreneur should therefore show that he would be worse off behaving opportunistically than he would be in cooperating in the network (Jarillo 1988). A typical way of doing this is to show a track record of operating in networks, thereby indicating that this reputable track record might be too valuable to risk by acting opportunistically. Jarillo states that the commitment to long-term relationships also generates trust as it makes clear that the relationship itself is considered valuable.

A long-term commitment might reduce the implications of “fair-sharing” because each instance in the relationship is considered less important since it is assumed that what matters is to maintain it in the long run (Jarillo 1988). In long-term commitments all parties are expected to show some flexibility in their demands, and since an investment is made in the relationship, a disgruntled actor might choose to use the voice mode of negotiations instead of a simple exit. Hallén and Lundberg (2004) claim that being a part of a strategic network opens up the possibilities for the member firms to develop their relationships, and thereby their network positions. The participants can strengthen their existing relationships with the other firms in the network, or develop new relationships which might give them a more central role in it. A central role in a strategic network might in turn make the firm more attractive as a partner and thereby elevate the firm’s stance both within and without the strategic network. There is, in other words, value in having active and working relationships within a strategic network that a firm can use as an incentive in attracting new strategic alliances.
4. Social networks and the concept of social capital

According to Adler and Kwon (2002), the concept of social capital has become increasingly popular among a growing number of sociologists, political scientists, economists and business researchers for answering a broadening range of questions in their individual fields of interest. In organizational studies in particular, the concept is gaining attention as it proves to be a powerful factor for explaining the relative success of actors in a number of areas of concern to organizational researchers (Adler and Kwon 2002). Social capital might facilitate individual career success (Burt 1992, Gabbay and Zuckerman 1998), create a richer pool of recruits for companies (Granovetter 1995, Lin and Dumin 1996), facilitate the exchange of resources and spur product innovation (Dhanaraj and Parkhe 2006, Tsai and Ghoshal 1998), reduce turnover rates for novel business ventures and contribute to entrepreneurship (Chong and Gibbons 1997, Walker and Kogut Shan 1997), strengthen relationships between suppliers, create regional networks and spur inter-firm learning (Asanuma 1985, Uzzi 1997, Kraatz 1998).

The concept of social capital has also evoked some criticism. Castle (1998) comments that unless the concept of social capital is used with a degree of precision and in a comparable manner, it will hold little value as an analytical construct in the future. Hirsh and Levin (1999) claim that social capital has become an “umbrella concept” which encompasses various other phenomena and that the concept is therefore at risk of conflating disparate processes and consequences. Adler and Kwon (2002) include such concepts as informal organizations, trust, culture, social support, social exchange, social resources, embeddedness, relational contacts, social networks and inter-firm networks under the “umbrella concept” of social capital. The concept is therefore described as a “wonderfully elastic term” (Lappe and Du Bois 1997:119) and could therefore “mean many things to many people” (Narayan and Prichett 1997:2). Against this background, I present an overview of the concept of social capital in the following section and discuss how I intend to use this concept in my thesis.

4.1 Defining social capital

Adler and Kwon (2002) define the core idea behind the concept of social capital as consistent with the notion that the goodwill that others have towards us is a valuable resource. The term “goodwill” here refers to sympathy, trust and forgiveness offered by friends and acquaintances. “If goodwill is the substance of social capital, its effects flow from the information, influence, and solidity such goodwill makes available and these benefits are in turn accompanied by risks and costs” (Adler and Kwon 2002:18). The resource of social capital lies in the social structure within which the actor is located, and “the resource available to actors as a function of their location in the structure of their social relations” (Adler and Kwon 2002:18), or simply as “the goodwill that is engendered by the fabric of social relations and that can be mobilized to facilitate action” (Adler and Kwon 2002:17). In other words, social capital lies in the reproduction of an inherent pattern of relationships and in the value that this pattern may create for the individual involved (Bourdieu and Wacquant 1992, Coleman 1990).

Bourdieu broadens the definition and claims that social capital can be studied both on an individual basis and on a group basis. “Social capital is the sum of the resources, actual or virtual, that accrue to an individual or a group by virtue of possessing a durable network of more or less institutionalized relationships of mutual acquaintance and recognition” (Bourdieu and Wacquant 1992:119).
4.2 Bridging and bonding forms of social capital

The use of the term “capital” suggests that some kind of value is being transacted in the creation of social capital. Therefore it is relevant to ask what kind of value is being created. Gargiulo and Benassi (2000) propose that there are two main ways of using social capital for an actor’s individual gain. Firstly, social capital can be seen as a way in which to overcome the dilemmas of cooperation and collective action by imposing trust, and secondly, it can be used to access information, resources and opportunities. Adler and Kwon (2002) claim that these two different ways of creating value through social capital stem from two different views of what constitutes social capital. These views are based in turn on the work of James Coleman and Ronald Burt, two key contributors within the field.

Coleman (1988) claims that closure of the network structure, in terms of existing ties between actors, facilitates the emergence of effective norms that in turn maintain the trustworthiness of others. These norms strengthen the social capital within the network structure. In a more open network structure the violation of norms goes undetected and therefore unpunished, which leads to less trust being developed in the network structure. An open network structure is therefore weaker in social capital. Social capital is thus connected to the creation of norms and trust within a single and cohesive network structure.

In contrast to Coleman’s (1988) focus on closure, Burt (1992) argues that a sparse network with few redundant ties often provides greater social capital benefits. This is because Burt’s (1992) notion of “structural holes” does not stress the utility of consistent norms fostered by cohesive networks as the main use of social capital. Instead he claims that the diversity of information and the subsequent brokerage opportunities created by the lack of redundant ties (structural holes) that exist within a sparse network are the source of value contained in social capital. Acknowledging that there is a structural hole within a network enables an actor to act as an information broker by combining the information from different actors within the network. The combination of the information coming from the separate actors might therefore create an opportunity for innovation within the network.

The reason for the opposing conditions for creation of social capital suggested by Burt and Coleman (closed and sparse networks respectively) lies in the difference between their respective internal and external foci and the related difference in assumed goals (Adler and Kwon 2002). A closed network provides cohesiveness benefits from social capital within a community, whereas structural holes within a sparse network provide the focal actor with cost effective resources for competitive action. The goals for the creation of social capital and their internal and external foci differentiate the different views on social capital held by Burt and Coleman. These different sets of foci are more commonly referred to as the bridging and bonding forms of social capital (Putnam 2000).

4.2.1 The bridging form of social capital

Researchers who study the bridging form of social capital view social capital as the inherent resource in the social network that ties a focal actor to other actors. They thereby focus on external relations (Adler and Kwon 2002). From this view, social capital can explain the differential success of individuals and firms in their competitive rivalries. The actions of an individual or a firm can be facilitated by their links to other actors in social networks. The ego-centric variant of network analysis influenced by researchers in sociology such as Burt (1992) is a precursor to the research in the bridging form of social capital (Adler and Kwon 2002). In a similar fashion to Burt (1992), Granovetter (1983) claims that it is not in the socially dense and cohesive networks that the real innovation and proactive social connections are made; it is through the so called “weak ties”, i.e. the casual acquaintances, that the real significant information flow is created. The ego-centric network analysis that influenced Granovetter tied this research closely to the field of sociology. Granovetter used the term of “bridging” for the usage of weak ties. By “bridging” Granovetter means the notion of creating bridges between an actor’s social context to that of another, thereby broadening the actor’s frame of reference. This term later influenced Putnam (2000) to make the distinction between the bridging and the bonding forms of social capital.

Definitions of social capital that stem from the bridging form of social capital are
The process by which social actors create and mobilize their network connections within and between organizations to gain access to other social actors’ resources. 
(Knoke 1999: 18)

and

Friends, colleagues, and more general contacts through whom you receive opportunities to use your financial and human capital.
(Burt 1992: 9)

4.2.2 The bonding form of social capital
In contrast to the view of social capital as a resource located in the external links of a focal actor, the bonding form of social capital focuses on internal characteristics of the collective actors (Adler and Kwon 2002). The internal structure within a social context is in focus and the collective’s external ties to other external actors are ignored. The features that give the collective cohesiveness and facilitate the pursuits of collective goals are studied, and the links between the actors within this collective serve as prime interests for research. Instead of an ego-centric variant of network analysis a socio-centric focus is applied were much of the “whole-network” variant of network sociology is included. The forces that “bind” a social structure together are therefore in focus in the socio-centric variant of network sociology, and consequently constitute the focus in research regarding the bonding form of social capital.

Definitions of social capital that stem from the bonding form of social capital are as follows:

Social capital is defined by its function. It is not a single entity, but a variety of different entities having two characteristics in common: they all consist of some aspect of social structure, and they facilitate certain actions of individuals who are within the structure.
(Coleman 1990:302)

and

Features of social organization such as networks, norms, and social trust that facilitate coordination and cooperation for mutual benefit.
(Putnam 1995: 67)

4.3 The benefits and risks of social capital
Historically the research literature has focused on the positive effects of social capital. Researchers (Molina-Morales and Martínez-Fernández 2009, Osborne et al 2009, Alguezaui and Filieri 2010) claim that there is a lack of existing literature that explores the negative effects of social capital. In the following section I give an account of some of the positive and negative effects of social capital.

4.3.1 Benefits and risks of the bridging form of social capital
Podolny and Page (1998) confirm that inter-organizational networks help firms and individuals gather skills and knowledge. Burt (1992) shows how the bridging form of social capital enables brokering activities that bring information from other actors to the focal actor. If this brokering activity relies on a reciprocal outflow of information the entire network will benefit from the diffusion of information. Hansen (1999) shows that weak ties enable product development departments to undertake cost effective information research and how this information benefits the whole network in future product development. Individual external weak ties held by the focal actor might therefore be beneficial to the network as a whole. In a similar fashion, Granovetter (1983) claims that it is not in the socially dense and cohesive networks that real innovation and proactive social connections are made. It is through the so called “weak ties”, i.e. the casual acquaintances that real significant information flows are created.
Burt (1992) claims that there are power benefits that accrue to entrepreneurs who bridge disconnected groups, because these entrepreneurs have a say in whose interests are being served by the bridge. Being the information broker enables them to negotiate terms that influence the future power structure within the network. These power benefits do not only benefit the group since it makes new information available, but also helps in getting things done as a leadership role rests on the information broker (Adler and Kwon 2002). The information broker helps not only to spread information between different groups but also specifies what information is relevant to whom and under what circumstances.

Solidarity can also emerge from the weak ties that bridge otherwise unconnected groups. Granovetter (1982) discusses a number of studies where larger cooperation projects needed to integrate subgroups with strong internal ties, schools with strong cliques of racial subgroups, hospitals with strong departmental structures and community movements built around cohesive cores, to name a few (Adler and Kwon 2002). Weak ties between focal actors representing each subunit added considerably to the integration of the large aggregate, according to Granovetter. Florida connects the “bridging” form of social capital with what he calls the creative class, and contributes innovation to loose bonds between different social groups that in turn constitute an open society (Florida 2006). According to Florida (2006) the higher the tolerance level towards marginalized groups a society can support, the higher the innovation output seems to be. The solidarity that weak ties and the bridging form of social capital might produce therefore spurs innovation and results in an open flow of information.

In some cases the power benefits of social capital may trade off against its information benefits. Ahuja (2000) argues that a focal actor might gain information benefits from having a large number of ties to other contacts who in turn have a large number of weak ties to other actors. However, in such situations the other actors might be less dependent on the contact with the focal actor, since they have other ties to benefit from. The power structure that maintains the ties within the social structure may be eroded by an abundance of weak ties to other social structures. The power benefits of the bridging form of social capital might produce therefore difficult for a single focal actor to oversee and manage.

Brokering for informational benefits by individuals or lower-level units within a collective or cooperation may lead to a tragedy of the commons for the broader aggregate (Adler and Kwon 2002). Gabriay and Zuckerman (1998) suggest that in those units of an organization where effectiveness depends on broad sharing of information, excessive brokering by individuals may hinder innovation. The individual brokers might advance their careers by their strategic location, bridging holes in the social network, but there is no guarantee that this leads to inflow of the most valuable information to the subunit as a whole, or to an outflow of information valuable for the organization. Individual weak ties might facilitate a flow of novel information for a collective, but there is no guarantee that this information will be useful for the broader aggregate since the information flow is controlled by the focal actor and not by a common nominator.

Portes (1998) points out that in bringing together dissatisfied actors, associational activity in civil society may deepen social cleavages. Bridging by the means of weak ties might therefore erode a network or a cooperation since a conflict of interest between the focal actor and the broader aggregate might occur. Inter-organizational cliques might form, thereby tearing apart existing organizational structures.

4.3.2 Benefits and risks of the bonding form of social capital

Putnam (1993:89) claims that “internally, associations instill in their members habits of cooperation, solidarity and public-spiritedness”. These “habits” then spill over into these members’ involvement with other associations and therefore generate trust. Common denominators keep the members together and a focus on how joint goals can be set. Coleman (1988) puts forward the notion that the power benefits that the exchange of favours promotes allow the focal actors to strategically manage their networks in order to achieve their goals.

Uzzi (1997) points out that social embeddedness allows firms to exchange “fine-grained” information and that access to inter-organizational networks therefore helps firms in acquiring information and know-how. Strong shared norms hold clan-type organizations together resulting in benefits from lower
monitoring costs and a higher transactional commitment (Ouchi 1980). The element of trust reduces the need to predict unforeseeable consequences by actors in the network, thereby reducing the transactional cost in the handling of the risk of making a transaction (Jarillo 1988). This trust in turn facilitates the transfer of more sensitive and richer information since there is a sense of solidarity engendered among the actors in the network (Krackhardt and Hanson 1993).

The bonding form of social capital can therefore be both a means for a focal actor to exercise influence, control and power, and a source of solidarity among the group members (Adler and Kwon, 2002). Moreover, strong bonding social capital facilitates information sharing since a sense of trust minimizes the risk of opportunistic behavior (Dhanaraj and Parkhe 2006). The information shared might also be more relevant to the broader aggregate, since knowledge of common goals might be higher in a close-knit network.

However, the same ties that filter information and serve as knowledge resources can also serve as lock-ins that isolate the organization from the outside world (Grabher 1993, Uzzi 1997, Gargiulo and Benassi 2000, Parra-Requena et al 2009). Nardone et al claim that “negative bonding social capital can hinder the achievement of a policy goal by coalescing opponents into an effective coalition” and thereby “oppressing some members of a community from connecting with other communities and organizations” (Nardone 2010:65).

Molina-Morales et al (2009) call the effect of hindering bonds and ties “over-embeddedness” and conclude that the curve that relates the connection between richness in social capital and innovation is an inverted U-shape. Some degree of social capital in the form of information networks within clusters promotes innovation, but innovation is hindered when the information network becomes too dense. Coleman (1990) characterizes a network that is fully connected by an immense quantity of social capital as “closed” and therefore immune to opportunistic behavior. On the other hand, Coleman identifies “closed” networks as somewhat rigid in their foundation and therefore less innovative than “open” networks. Exposito-Langa and Molina-Morales (2009) claim that close bonds between actors might cause knowledge redundancy since the same knowledge is passed through the network on different occasions. Powell and Smith-Doerr (1994:393) put it as “the ties that bind can also be the ties that blind” in describing the same phenomenon.

Florida (2006) claims that strong bonds between members of homogeneous groups may hinder innovation since these bonds make the members complacent and isolated from impressions from outside of their small circle of social interaction. These strong bonds or ties therefore generate conformity which according to Florida is a strong obstacle for innovation. Portes (1998) notes that strong bonding social capital in a tightly knit community may create free riding problems and hinder entrepreneurship. If strong norms in a community dictate the sharing of resources between members of a tightly knit group or among family members the incentives for entrepreneurship will be reduced. In tightly knit communities the feeling of obligation and friendship between actors may be so great that a firm becomes a “relief organization” for the other firms in its network (Uzzi 1997). Bonding social capital might therefore slow down the accumulation of capital, since entrepreneurship and economic rationality become subordinate to friendship and obligating norms.
<table>
<thead>
<tr>
<th>Bonding form of Social Capital</th>
<th>Bridging form of Social Capital</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Positive Effects</strong></td>
<td><em>Creates technology brokers facilitating entrepreneurship and innovation (Burt 1992)</em></td>
</tr>
<tr>
<td></td>
<td><em>Creates technology brokers to act as mediator of relevant information (Hansen 1999)</em></td>
</tr>
<tr>
<td></td>
<td><em>Creates open-mindedness and integration of marginalized groups (Florida 2006)</em></td>
</tr>
<tr>
<td><strong>Negative Effects</strong></td>
<td><em>Over-embeddedness creating like-mindedness (Granovetter 1985)</em></td>
</tr>
<tr>
<td></td>
<td><em>Organizational lock-ins closing off network to novel information (Parra-Requena et al 2009)</em></td>
</tr>
<tr>
<td></td>
<td><em>Resources controlled by common norms not economic rationality (Uzzi 1997)</em></td>
</tr>
<tr>
<td></td>
<td><em>Erodes power structures making it hard to strategically manage networks (Ahuja 2000)</em></td>
</tr>
<tr>
<td></td>
<td><em>Might create cliques of dissatisfied actors eroding existing organizational structures (Portes 1998)</em></td>
</tr>
<tr>
<td></td>
<td><em>Low relevance of the shared information to the broad aggregate (Gabbay &amp; Zuckernann 1998)</em></td>
</tr>
</tbody>
</table>

Figure 3: A matrix portraying effects of bonding and bridging forms of social capital.
5. Method

5.1. Case study

Eisenhardt (1989: 534) defines a case study as "a research strategy which focuses on understanding the dynamics present within single settings". The case of the Firsam regional strategic network provided me with an opportunity to clearly define this “single setting” and thereby also define the borders of content analyzed in my study. At the initiation stage of the Firsam project, 15 companies became involved. I therefore chose to focus on the individuals that represented these companies in the meetings undertaken within the Firsam project, and how the Firsam project had affected them during the course of the past six years. Representatives of the network management group within the project were also interviewed. Their representation of the strategy that they created in designing and implementing the strategic network serves as a valid source of data. The data portraying the network management’s strategy can be usefully compared to the data provided by the respondents representing the companies. The interaction between strategic policy and the subjects of this policy serves as an interesting source of data for analysis.

According to Yin (2003) a case study is best implemented when the research question is formulated as "how" or "why" rather than "how many", "how much" "where", or "how often". The emphasis in a case study therefore lies outside of the domains that questions answered through quantitative data can provide, even if both quantitative and qualitative data are usually used within a case study (Yin 1993). Denzin and Lincoln (2003) claim that qualitative researchers stress the socially constructed nature of reality as they seek answers to questions that stress how social experience is created and given meaning. The term “sense-making”, introduced in organizational studies by Weick (1995), focuses on how individuals make sense of their surroundings. This notion serves as an inspiration to how I approach my methodological reasoning in this thesis. How meaning is created and how the individuals involved make sense of the goings-on in the Firsam project are thereby put into focus.

This thesis concerns the development of a regional strategic network, how it affected the network connections, and the role of social capital. Such a research problem is best approached by a case study, according to Yin’s (2003) argumentation. Social capital is the concept that stands to be used as the main factor in the analysis. This is a concept that manifests itself in the socio-economic context and dictates how individuals relate to each other and their surroundings (Adler and Kwon 2002). The focus on sense-making mechanisms discovered in the empirical findings is therefore a natural choice.

The use of qualitative or quantitative data also stems from the paradigm that the researcher relates to in the discourse regarding ontological frame of reference (Guba and Lincoln 1994). Positivistic and post-positivistic thinking represents a cause-and-effect thinking that is typical of the quantitative approach, where quantitative data are collected and analyzed (Slotte-Kock 2009). The role of the researcher is therefore to test theories which are reduced to variables and formulated into laws; a deductive logic is therefore imposed in the research method (Guba and Lincoln 1994). Deductive logic includes research where conclusions are based on theoretical reasoning after which theory is put into practice (Bryman and Bell 2007). Inductive logic is often found in the research methods used to collect empirical qualitative data. This logic entails the notion that the researcher starts from observations and allows patterns to be visualized, and from these patterns new theory is formed. The theory is therefore grounded in empirical findings, and expectations based on prior theory do not affect the birth of the new theory. In this thesis I have chosen the theoretically derived concept of social capital to analyze my empirical findings. The choice to use this theoretical concept as an analytical tool was first made after the interviews had been conducted. The data collection was therefore undertaken from an inductive perspective and the theoretically derived concepts were first introduced during the structural
analysis of the data. In other words, the theoretical framework was developed over the course of the categorization of the already collected data and consequently did not affect the data collection process.

Silverman (2007) calls data collected by means of interviews “manufactured data” and thereby claims that the researcher is manufacturing the data together with the respondent and the data are therefore contaminated by the researcher’s views and assumptions. Very broad and open questions were formulated prior to the start of the interviews in order to let the respondent speculate freely and unhindered over the issues discussed. Efforts were made to permit the respondent to steer the interview towards the issues in the subject at hand that they felt were most important. I thereby tried to minimize the impact that I as a researcher had on the respondent during the interviews, since it is the respondent’s subjective thoughts regarding the Firsam project that I am interested in.

Silverman (2007) claims that we as researchers tend to be blinded by a vision of people’s “deep interiors” and therefore remorselessly focus on accessing the insides of people’s heads by listening to their stories. However, these “stories” of memories and experiences are not simply a private matter that the respondent keeps in his head in order to be “discovered” by a researcher. These stories are carefully regulated by the respondent and rationalized in order to meet an audience. The assumption that a respondent can portray or explain their own reasoning and actions in a manner that makes their “stories” valuable as research data is therefore questioned by many researchers (Silverman 2007, Czarniawska 2007). My research strategy is influenced by Weick’s (1995) notion regarding sense-making and is therefore focused on these so called “stories”. The respondents’ thought processes regarding how they rationalize the past goings-on within the Firsam project and their own contribution in this process are the main sources of data that I analyze in this thesis. In other words, I am not looking for an objective “truth” or an objective factual description of the actors’ actions in the Firsam project. It is the subjective “stories” that the respondents portray that are in focus.

The main objective for a case study is to let theoretical reasoning meet reality (Yin 1993). In other words, the case study plays the role of providing empirical insights to sustain or discard theoretical frameworks or create the foundation upon which new theories can be based. The main objective of a case study is therefore not to create theories that are fully adapted to be generalized, but to create concrete and empirically tested theories that are practical in the context in which they are created (Stake 2000). The purpose of the case study is therefore to rectify the fallacies that a general theory might impose when it is tested in real life situations, bringing the contextual and case specific variables into the equation of research. The notions of reliability and validity often posed by the positivists are rejected in favor of context dependent findings (Denzin 1989).

The research problem in the present thesis implies a focus on the specific context where the regional strategic network operates. Therefore Stakes’ (2000) definition of a case study as being context derived further supports the choice of a case study to fulfill the purpose of the thesis.

5.2 Qualitative and quantitative data

Since the goal of a case study is to understand a contextual phenomenon, the implementation of quantitative and qualitative data can be combined (Yin 1993). The findings that these different types of data generate can be compared to give a broader insight into the phenomenon. The study of qualitative data often allows an understanding of a process and the mechanism behind change from a historical perspective. In painting a picture of the context in which a phenomenon exists, qualitative data usually give valuable insights that might be hard to grasp in a quantitative and causal empirical study (Merriam 1988). Since the objective of this thesis is to understand a process that spans time, and to document the individuals’ subjective understanding of this process, I rely heavily on my findings created through the analysis of qualitative data.

The quantitative data presented in this thesis serve as the framework to which my qualitative data refer. Quantitative data provide the context in which the process behind the development of the studied phenomenon may become visible through the qualitative data. Only when presented in this context do the findings presented in this thesis become relevant to represent the phenomenon I wish to portray.
The case study describes the relationships of the 15 companies included in the Firsam project prior to the formation of the project in 2004, the process that followed and the situation approximately six years later. The data provide insights into the expectations that the companies had when entering the collaboration and their opinions on the actual outcome of the project in 2010. Both the birth and death of this created network or cluster project are included, and the process is described over time, contributing to the knowledge of the dynamics of regional strategic networks. Structured interviews were conducted with representatives of all 15 companies and the management group when the Firsam network project was set up in 2004, and follow-up interviews were held in 2010.

I started the research project that resulted in this thesis by sorting and analyzing the raw data that had been collected in 2004. The data consisted of recorded interviews conducted by Patrik Söderhielm, a research assistant employed by the University of Gävle. He interviewed the managers of the 15 companies included in the Firsam project at the start of the venture (table 1). The content of the interviews was steered towards firstly giving an adequate picture of the company that the respondent was representing; secondly, giving the respondent a chance to express his or her intention when joining Firsam; and thirdly, portraying the expectations that he or she had of the Firsam collaboration. The respondents’ prior experience of being involved in networks was also discussed and attempts were also undertaken to form a representation of the respondents’ general attitude towards networking.

This material gave me an insight into the prerequisites that the Firsam project was faced with, and a picture of the individual managers’ expectations on joining the project. Based on this data I conducted in depth interviews with the same individual managers in 2010, to follow up on both the development of the Firsam project and the managers’ personal development tied to the process of the Firsam venture (table 1).

Very broad and open questions were formulated prior to the start of the in depth interviews in order to allow the respondents to speculate freely and unhindered about the issues discussed (attachment 3). I allowed the respondents to steer the interview towards the issues they felt were most important in the subject at hand. I thereby tried to minimize the impact that I as a researcher had on the respondent during the interview, since it is the respondent’s subjective thoughts regarding the Firsam project that I am interested in. The individual expectations of the Firsam project that the respondents expressed in the 2004 interviews were also addressed in order to allow the respondents to follow up their own statements. The respondents were therefore encouraged to speculate on the development of their own expectations of the Firsam project and relate their speculation to their view of the outcome of the project.

Members of the Firsam management group were also interviewed in a series of in depth interviews. These interviews were steered towards discussing the respondents’ expectations vis-a-vis their interpretation of the outcome of the Firsam project, although the questions were broad and openly formulated. The strategy undertaken by the management group was also discussed, together with the formulation of official goals and their implications on management.

After all the interviews were performed and transcribed I started to sort the qualitative data using open coding influenced by Strauss and Corbin (1998). This thesis does not make any claims to produce a grounded theory since the results of this study do not rely solely on empirical observations. The technique described by Strauss and Corbin (1998) is useful for coding data into concepts even if creating a grounded theory is not the goal of the study. Their approach enables the opportunity to be open in the coding of the data, as opposed to a more structured approach with preliminary codes decided upon a priori (Lövblad 2011). I selected a number of concepts that I felt were central and recurrent in the data, and thereby created a structure for my future analysis. The concepts consisted of different subjects that the respondents had brought up in the interviews, such as the marketing of the Firsam project, the trust generated within the Firsam project and the selection of companies to be included in the project. Subjects referring to how the respondents viewed their own businesses were also conceptualized, such as the companies’ view of their markets, their views of their unique selling propositions and their previous experiences of working within strategic networks. These different concepts were then analyzed, taking into consideration the longitudinal aspect, which having interviews from two points in time enabled me to consider. The first assessment of these concepts allowed me to divide the data into categories. The categories were based on the model developed by Hallén et al (2009b) (figure
2), and form the structure of this thesis. The concepts used to structure my data are therefore first empirically derived, and then sorted into categories based on an existing theoretical framework. The structure of my analysis and the choice to utilize the theoretical concept of social capital as an analytical tool were therefore first made after the data was collected and structured. This method follows the inductive perspective often used in case study research (Bryman and Bell 2007).

Since the questions I asked as a researcher encouraged the respondents to be critical towards the Firsam project, the respondents were granted anonymity. I therefore assigned each company a name based on the group in which I have placed them (table 1 – section 6.4 contains an explanation of the empirically derived group designation). The respondents and their respective company will be referred to by these names in the thesis.

<table>
<thead>
<tr>
<th>Respondent representing Company</th>
<th>Date (dd/mm/yyyy)</th>
<th>Duration (minutes)</th>
<th>Date (dd/mm/yyyy)</th>
<th>Duration (minutes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>EC1</td>
<td>01/11/2004</td>
<td>30</td>
<td>04/02/2010</td>
<td>65</td>
</tr>
<tr>
<td>EC2</td>
<td>04/04/2005</td>
<td>50</td>
<td>04/02/2010</td>
<td>65</td>
</tr>
<tr>
<td>EC3</td>
<td>03/11/2004</td>
<td>85</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>EC4</td>
<td>02/11/2004</td>
<td>45</td>
<td>01/02/2010</td>
<td>50</td>
</tr>
<tr>
<td>EC5</td>
<td>10/04/2005</td>
<td>50</td>
<td>01/02/2010</td>
<td>60</td>
</tr>
<tr>
<td>EC6</td>
<td>01/11/2004</td>
<td>30</td>
<td>02/02/2010</td>
<td>75</td>
</tr>
<tr>
<td>EC7</td>
<td>06/05/2005</td>
<td>75</td>
<td>04/02/2010</td>
<td>70</td>
</tr>
<tr>
<td>EC8</td>
<td>03/11/2004</td>
<td>80</td>
<td>03/02/2010</td>
<td>70</td>
</tr>
<tr>
<td>MC1</td>
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<td>60</td>
<td>20/04/2010</td>
<td>75</td>
</tr>
<tr>
<td>MC2</td>
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<td>22/04/2010</td>
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<td>50</td>
<td>01/02/2010</td>
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<td>02/02/2010</td>
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</tr>
<tr>
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<td>50</td>
</tr>
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<td>85</td>
</tr>
<tr>
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<td>29/10/2004</td>
<td>55</td>
<td>22/04/2010</td>
<td>80</td>
</tr>
<tr>
<td>MG1</td>
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<td>95</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>MG2</td>
<td>15/01/2010</td>
<td>140</td>
<td>19/04/2010</td>
<td>50</td>
</tr>
</tbody>
</table>

EC: Electronics companies tied to the Ericsson company
MC: Manufacturing companies tied to the strategic network of Verkstadscentrum
N: Companies tied to neither of the previous groups
MG: respondents representing the management group of the Firsam project
(See section 6.4 for an explanation of the empirically derived group diversification)

Table 1: List of interviews performed.

The quantitative data analyzed in this thesis were collected in the form of a questionnaire which was filled out by the respondents representing the companies included in the Firsam project in 2004. This questionnaire included questions regarding the respondents’ current contacts with companies included in the Firsam project. The questionnaire was filled out by the respondents themselves in the presence of the interviewer so it could be collected immediately. In the questionnaire the respondents were asked to assess how often their own company worked together with the other member companies of the budding strategic network on a scale from 1 (not at all) to 5 (very often) (appendix 1). The same questions were asked to the same individual company representatives in 2010, but in some cases the names of the companies had changed, as some had been bought by other companies. The member
companies were identified through aided recall as a list of company names was presented to the respondents (appendix 2).

The assessments made by the respondents resulting in the quantitative data should therefore be interpreted as a subjective grading by the respondent and not a factual account of how often these companies are in contact. Nevertheless, the respondents’ grading provides a good account of the perceived level of contact between the companies, and how important these contacts were for the respondents. Moreover, the fact that identical questionnaires were filled out by the same respondents in 2004 and in 2010 creates an interesting opportunity to compare the results from these different points in time. The first questionnaire was filled during the initial stage of the Firsam project and the second questionnaire was filled during the project’s closing stage. The data provided can therefore be used to analyze the impact that the Firsam project had on the included actors. A grading based on “how often” respondents met with representatives from the other companies for business purposes was implemented. This was preferred over a grading based on how important respondents believed the contacts to be, since this would have made the grading even more subjective. I interpret frequently recurring business contacts as a sign of these contacts being important to the involved companies since they are investing their time in nurturing the relationship.

As well the collection of primary qualitative and quantitative data, secondary data was collected and included in the analysis. The secondary data consisted of protocols, newspaper articles and web based material. This data predominantly serves to portray the strategic and managerial development of the Firsam project. The emphasis will be put on the primary data.
6. The Firsam case description

6.1 The region of Söderhamn

Söderhamn is a municipality situated on the Swedish Baltic coast 260 kilometres north of Stockholm. The municipality has 26,000 inhabitants and is part of the Gävleborg region. Söderhamn is a traditional industrial community (bruksort in Swedish) founded around forestry commerce (Hammar and Svensson 2000).

In 1620 Söderhamn received its city charter since the important weapon manufacturing base of the Swedish military was situated there. The 19th century was Söderhamn’s most expansive period, and as a result of the emergence of the sawmill industry Söderhamn became a strong Swedish industrial center. Manufacturing companies within the forestry industry such as StoraEnso, Vallviks Bruk, Arizona Chemical, Eco Log and Söderhamn Eriksson were located in the town, and still contribute significantly to the municipality’s trade and industry.

The military airbase F15 was established in Söderhamn in 1945 and together with the establishment of the prominent telecom manufacturer Ericsson in 1947 started a boom period in Söderhamn’s history. The production activity at the Ericsson plant grew strongly, and in 1952 the factory had manufactured its millionth dialing pad (used on phones prior to the introduction of the number buttons). During the 1960s the factory expanded its production to include time stamps, signal material, impulse engines and transformers for the emerging telecom industry. In the 1980s the Ericsson plant’s ownership was transferred to the subsidiary company Ericsson Components, a world leading manufacturer of power and energy equipment for base stations and other telecommunications systems. The growth rate at the Ericsson plant continued to flourish until the telecom industry changed rapidly in 2000 (Isaksson 2008).

Just before the telecom industry lost its momentum Ericsson sold the factory in Söderhamn to the American St Louis based company Emerson. Since the changing telecom industry would force Emerson to close the factory just a few years later, the 7 billion SEK deal was a stroke of luck for the Ericsson Company. However it did not feel lucky for the inhabitants of Söderhamn.

In the spring of 2004 the factory was finally closed after a long period of personnel downsizing and union negotiations. At its peak, only 4 years before it was closed down, the Ericsson factory employed 1 200 people in the municipality, representing more than 7 % of the community employment. The military airbase had also been closed a few years earlier. The military industry and the public sector has historically been a strong contributor to Söderhamns industry and trade (figure 5). When the military airbase was closed in 1998 it reduced the employment in the community by 3 % (Hammar and Svensson 2000, Isaksson 2008). The state tried to counteract this setback by outsourcing 350 jobs to the region, but these jobs were not permanent and not sufficient to replace the 500 jobs lost in the closure of the air force base (Hammar and Svensson 2000, Isaksson 2008). It is easy to understand the impact that the closure of the air force base and the telecom plant had on the municipality as a whole.

The structural reshaping of the forestry industry in the 1970s, together with the closures of major employers described above caused Söderhamn to suffer a declining population and a high level of unemployment (Hammar and Svensson 2000). The number of gainfully employed in the region was below the Swedish national average in 2008 (figure 4), and the percentage of Söderhamn’s population with a post-high school education is also considerably below the national average (figure 6). Nevertheless, the manufacturing, agriculture, fishing and forestry industries have a significant hold over Söderhamn’s industry and trade, and industries like IT, communication, financial services and trade are all underrepresented in comparison with the national average (figure 5).
Figure 4: Gainfully employed of the population, as percentage according to year and region. (Statistics Sweden, www.scb.se)

Figure 5: Gainfully employed according to industry, as percentage according to region in 2008. (Statistics Sweden, www.scb.se)

Figure 6: Population according to level of education, as percentage according to region in 2008. (Statistics Sweden, www.scb.se)
6.2 The socio-economic milieu of Söderhamn

Söderhamn as a region is a typical example of an industrial community situated in a peripheral region, which has sprung from regional natural resources, and has characterized the Swedish industrialization. It was in regions like Söderhamn that industrialization started during the latter part of the 19th century. It might even have been in Söderhamn that modern day Sweden was formed, since the political culture and work climate between the workforce and the capital was created through the industrial community’s special conditions. There are therefore, metaphorically speaking, hundreds of Söderhamns in Sweden that could be studied in the context of seeing the bigger picture through studying the small parts. (Lindberg 2002:37) [Author’s translation]

Lindberg describes Söderhamn as a typical industrial community that represents the image of industrialization in Sweden. But what is the important ingredient that signifies the political and social structure that forms this sort of community? Within the socio-centric focus of network analysis the forces that “bind” a social structure together are in focus (Adler and Kwon 2002). The socio-economic structure of a region has a direct impact on the forces that create social capital within its social structure. Describing the socio-economic structure within a region is therefore vital for understanding the formation of social capital among its residents.

The main feature in the concept of social capital is the sharing of common norms and networks that facilitate the development of trust within a cohort (Coleman 1990, Bourdieu and Wacquant 1992, Putnam 1995, Adler and Kwon 2002). This trust lays the foundation for cooperation and thereby persistent social and economic development (Putnam 1996). However, according to Portes and Landholt (1996), not all social capital is used in a positive manner. In Söderhamn, the nature of the social capital is often described by the expression “dependence-oriented culture” (bruksanda in Swedish). Forsberg defines dependence-oriented culture as “the filter or lens that redefines and adapts the general economic and social structures to the local context” (Forsberg 1997:59), thereby claiming that the dependence-oriented culture is a product of the economic and social structures that defines regions like Söderhamn. Dependence-oriented culture has, according to Hammar and Svensson (2000), developed out of the historical relationship between the locally dominant employer and the workers’ collective. The dominant employer guaranteed employment in exchange for the workers’ loyalty. In these peripheral regions a single employer was therefore expected to provide subsistence for his workers from “cradle to grave”, and the community as a whole was centered around these employers (Bursell 1997:12). This loyalty to a major employer entails the notion that all other commerce except the commerce involving the dominant employer is considered unwanted competition. Therefore, entrepreneurship is often seen as a betrayal of this loyalty and is frowned upon in the local social context.

The dependence-oriented culture is based on a few very strong connections, both internally within the society and externally through customer contact. The major employer managed these connections and the majority trusted the collective authority, such as the unions and political parties, to provide the security of employment (Hammar and Svensson 2000). There is a focus on the collective and a strong feeling of disapproval towards individual success is prevalent. A sense of duty towards the rest of the workforce collective and the notion of “pulling your weight” is promoted. Borgström exemplifies the core of the notion of dependence-oriented culture by defining it as “a heritage of a collective spirit that hinders individualistic initiative” (Borgström 1996:57). The characteristics of the dependence-culture presented by Borgström (1996) resemble Uzzi’s (1997) statement that strong norms in a community may dictate the sharing of resources between members of a tightly-knit group and thereby reduce the incentives for entrepreneurship. This notion connects the socio-economic climate of Söderhamn with the risks that are commonly associated with the bonding form of social capital.

The conditions that spurred the dependence-oriented culture have changed in most regions that share Söderhamn’s history, as they have in Söderhamn. However, there is still a high level of trust in the ability of the larger corporations, the municipalities and the unions to safeguard the financial well-being of the region. Solutions to reduce unemployment are expected to come from external sources and from higher strata in the social structure. This often leaves the individual in a state of powerlessness as a result of a lack of belief in his or her own ability (Hammar and Svensson 2000).
The notion of a “small business oriented culture” (Gnosjöanda in Swedish) is often mentioned as the antithesis of dependence-oriented culture. In Swedish, this type of social capital is named after a region in southern Sweden called Gnosjö. This region is often compared to other regions that are generally accepted as inspiring a positive form of social capital, such as the Silicon Valley in the US and regions in northern Italy. In these regions there is well developed cooperation between local firms, entrepreneurship is endorsed by the existing companies, and the production of goods and services is considered flexible (Berggren et al 1999). Small business oriented culture is therefore described as a form of social capital that fosters cooperation and entrepreneurship instead of hindering interaction between different social groups and personal initiatives.

The practice of using the terms “dependence-oriented culture” and “small business oriented culture” in the Swedish language was illustrated by a proposal to the Swedish parliament written by a group of conservative Swedish politicians in 2010. This proposal suggested that the so called upholder of the dependence-oriented culture, the “Jante law”, should be considered illegal (motion 2010/11). The Jante law was written by the Norwegian author Aksel Sandemose in 1933 to describe the social climate that he felt dominated the small Danish community in which he grew up (Sandemose 1933). The content of the Jante law can be summarized as dictating that an individual should never believe or express that he is better than anyone else, or propose a new and innovative solution to a problem. The authors of the legislative proposal connect the existence of the Jante law to the formation of the dependence-oriented culture, and suggest that this “law” works against the entrepreneurial spirit that they associate with small business culture. The authors express that the Jante law is not only damaging to Swedish society, but also discriminates against all free-thinking individuals. The Jante law should therefore be illegal and explicitly included in the anti-discrimination act in Swedish law (motion 2010/11).

Isaksson (2008) compares the municipality of Söderhamn to Gislaved, a region of similar size and industrial background in a report published by the Swedish globalization council (Globaliseringsrådet). Gislaved is a municipality situated in the Småland region, close to the Gnosjö region. Both Söderhamn and Gislaved have recently been affected by the closure of major industries, but there are significant differences in the effects of these closures on these two locations. Isaksson attributes these differences to the significantly different ways in which the regional politicians dealt with the setback and the regional social structure. In Söderhamn the major strategy to attract new jobs to the region consisted of efforts to attract a government funded flight school to the old air force base premises. In other words the strategy was influenced by the notion that attracting government funded jobs would be the solution to the regional employment issue. Gislaved, on the other hand, invested money in the local industry, and the municipality encouraged a state agency (Nutek) to invest in the development of local companies. According to statistics presented by Isaksson, the strategy imposed by Gislaved proved to be more productive, and Gislaved recovered better from the closing of the tire manufacturer Continental than Söderhamn did from the closure of Ericsson. According to Isaksson, this difference in strategy was a result of the local social structure and social capital prevalent in the municipalities. Gislaved had a better history of developing and starting small and medium enterprises in the region, and therefore had a climate that fostered entrepreneurship. Söderhamn was more influenced by the dependence-oriented culture and therefore did not have such a climate. A regional strategy consisting of support to these industries was therefore the natural solution for Gislaved, and was a more productive way to promote regional growth in the long run. Söderhamn did not have a strong history of entrepreneurship and therefore trusted in governmentally funded employment to lift the municipality out of the crisis, a strategy that proved less effective (Isaksson 2008). The different strategies undertaken by the local politicians in Söderhamn versus Gislaved serve as a telling example of the influence that the socio-economic climate can have on decision making within the local social context. The small business oriented culture that affects the social capital within regions like Gislaved seems to have had a positive effect on the region’s strategy in achieving regional growth. The dependence-oriented culture associated with Söderhamn seems to have done the opposite and hindered regional development.
6.3 The Firsam project

One of the projects that was undertaken in order to compensate for the downsizing within the municipality of Söderhamn included actors from the public, private and academic sectors (Triple Helix cooperation) as this had become a preferred approach for regional actors wanting to stimulate the development of regional industry (Hallén et al 2009a, Andresen 2011, Sölvell 2009). The approach was an integrated element of the Regional Cluster Program in Sweden, which is a national program for regional innovation and growth hosted by the Agency for Economic and Regional Growth (Tillväxtverket). Together with the previous management at Emerson, officials of the municipality developed a cluster idea together with researchers at the regional university. In 2004 these three actor groups formed the triple helix cluster initiative Firsam (Företag i regional samverkan), with the support of the EU Regional Development Fund.

The key initiator behind the Firsam project was the former factory manager at the now closed Emerson (formally Ericsson) factory called Arild Frånberg. Frånberg chose the companies to be included in the network design based predominantly on his own personal contacts. Unsurprisingly, the included companies either had a connection to Ericsson or to other manufacturing companies in the region, and were therefore involved in electronics and mechanics.

The project idea was to bring to market the combined competence and capacity of the companies joining the Firsam regional strategic network. The ultimate mission was to find a product idea to develop and produce jointly. Each company would be responsible for a stage in the total value chain. This demanded joint efforts in searching for new products, product development, marketing and financing. The organization’s web site (Firsam Verkstadscentrum 2008) described the mission with the catchphrase “from idea to the final customer in one chain”. The links in the chain were specified as follows:


![Figure 7: “From idea to the final customer in one chain.”](Firsam’s website, www.firsam.se) [author’s translation]
The designated scope of the mission was therefore very ambitious. The aim was to develop Firsam into a permanent organization which in the long term would create a business network equally important for the region as Emerson (Ericsson) and the military air force base.

The Firsam cluster initiative was managed by a leadership group. A marketing operative was employed and people from the municipality contributed with administrative support. A consultant was engaged to coordinate the project, and researchers at the regional university were involved to increase the competence in various business functions, but above all to stimulate the cooperation between the Firsam members. This group initiated a series of activities to create a common frame of reference and enhance the competence of the member firms.

6.4 Firsam network in 2004

The quantifiable information that was collected in the 2004 questionnaire makes it possible to chart the business network that existed between the companies included in the Firsam project prior to the start of the project (figure 8). In the questionnaire the respondents were asked to assess how much their own company worked together with the other member companies of the budding strategic network on a scale from 1 (not at all) to 5 (very much). The nodes within the network chart portraying the business network represent the companies included in the Firsam project and the arrows or “edges” indicate the intensity and direction of relationships between the nodes. The properties of the relationships indicated by the arrows were self-assessed by the respondents according to the five-point scale mentioned above (see section 5.2), measuring the extent to which they considered themselves to be working together with people in the other member companies. In the diagram, the broken lines represent a relationship grade of 4 between the companies (“working together rather much”) and a solid line represents a relationship where the relationship has been graded 5 (“very much”). The solid lines therefore indicate a strong relationship between the actors. The member companies were identified through aided recall as a list of company names was presented to the respondents.

The interviewed companies often either mentioned a connection to Ericsson (this group will be referred to as EC) or to Verkstadscentrum (another strategic network, which will be referred to as MC), a basis for the relationships that the companies in the Firsam network had prior to the launch of the new network project. The companies with a connection to EC either consisted of staff formerly employed by these companies, or did the bulk of their business with EC. The know-how of these companies was focused on electronics, and they either produced or designed electronic products.

MC was a network formed at an earlier stage to make joint purchases of materials for production and to work closely with the industrial program at the local high school to offer trainee positions. The companies that mentioned connections to MC all had their primary business or know-how in the manufacturing field. These companies were usually experts in cutting and welding different metals, or active in the mechanical industry.

In the network chart (figure 8) companies are represented by circular nodes for companies from the EC group, and square nodes for companies from the MC group. It is apparent that the two groups form separate parts of the network, with a strong connection between the companies MC4 and EC2 connecting the two groups. These two companies are also strongly central within the network and are therefore influential in the network formation by virtue of their central position.

In order to illustrate the division in the existing network of companies included in the Firsam project I have listed the companies according to their respective group and specified the number of arrows connecting them to members of the two groups (table 2). It is evident from the chart that no companies have more arrows connecting them to a company in the other group than to companies in their own group. The company EC4 has equal numbers of connections to both groups indicating two strong connections with companies representing each group.

Researchers frequently suggest that modern social network analysis began with the publication of Moreno’s pioneering book on sociometry, Who Shall Survive (Moreno 1934, Wasserman & Faust 1994, Degenne & Forsé 1994, Freeman 1996). A common sociometric instrument in social network research is the measurement of the percentage of modularity, which is used to show the significance of
the formation of cliques or separate groups within a network (Freeman 1996) (table 3). In order to calculate the modularity the expected percentage must be calculated first. The expected percentage represents the likelihood that an actor would choose to establish a connection with a representative from a group if the connections within the whole network were made completely randomly. This figure is then related to the percentage of connections that are established and observed between the different groups in the network. If the observed percentage exceeds the expected percentage, it indicates the modularity percentage which in turn indicates to what extent the two groups are exclusive (Moreno 1934, Bickel and Chen 2009). Both groups or cliques observed within the Firsam network are significantly exclusive since their modularity is over 20 percent. The observed percentages of both groups are more than 75 percent but the modularity of the EC group is somewhat lower since this group is the larger of the two. The MC group is the most exclusive, with a modularity percentage of 45.5 percent. According to Moreno (1934) a high percentage of modularity indicates that the group in question has a high degree of homophily, i.e. there are common traits that unite members in some sort of coalition and therefore separate them from the rest of the network (Fowler et al 2011, Alt and Lieberman 2010). The cause of the homophily that unites and separates the two groups in the Firsam network is described in the analysis of the qualitative data. The analysis of the quantitative data indicates that there is some homophily that separates these groups from each other.

Figure 8: The Firsam network in 2004.
<table>
<thead>
<tr>
<th>Companies associated with Ericsson/Emerson</th>
<th>Companies associated with Verkstadscentrum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nr of contacts with companies/group</td>
<td>Nr of contacts with companies/group</td>
</tr>
<tr>
<td>Company</td>
<td>Ericsson/Emerson</td>
</tr>
<tr>
<td>EC1</td>
<td>0</td>
</tr>
<tr>
<td>EC2</td>
<td>3</td>
</tr>
<tr>
<td>EC3</td>
<td>3</td>
</tr>
<tr>
<td>EC4</td>
<td>2</td>
</tr>
<tr>
<td>EC5</td>
<td>4</td>
</tr>
<tr>
<td>EC6</td>
<td>1</td>
</tr>
<tr>
<td>EC7</td>
<td>0</td>
</tr>
<tr>
<td>EC8</td>
<td>2</td>
</tr>
</tbody>
</table>

No; Number of contacts indicates contacts that have been rated 4 or 5 (i.e. close contacts)

Table 2: Connections between the different groups within the Firsam network in 2004.

<table>
<thead>
<tr>
<th></th>
<th>2004</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>EC group</td>
</tr>
<tr>
<td>Expected percentage</td>
<td>53</td>
</tr>
<tr>
<td>Observed percentage</td>
<td>75</td>
</tr>
<tr>
<td>Modularit percentage</td>
<td>22</td>
</tr>
</tbody>
</table>

Table 3: Group modularity in the Firsam network in 2004.

6.5 The Firsam process

The Firsam process consisted of meetings between the participating companies and the network management group. The formal meetings were arranged to include representatives of all the companies and the management group and either revolved around setting collaborative goals or conducting educational programs. These meetings are listed in figure 9. Fourteen meetings were held in the first two years, and twelve further meetings were arranged after the final funding was received. It is evident from figure 9 that these meetings were dependent on the financing of the project since they tended to coincide with received funding. This does not necessarily imply that the Firsam project was steered by the investments of other parties, just that the formal meetings were dependent on external funding.

As well as these formal meetings, smaller groups of companies were brought together to work on joint business cases. These less formal meetings were not fully documented and are therefore not shown in figure 9. These informal meetings were arranged in accordance with the development of the business cases and were therefore not governed by external funding like formal meetings. I have described the meetings and cooperation in more detail in the subsection “analyzing the network cooperation activities” (in section 8), where respondents describe these meetings and how they perceived the intent behind the meetings.
6.6 The Firsam network in 2010

When comparing the figures representing the Firsam network in 2004 (figure 8) and in 2010 (figure 10) it is obvious that the network had become somewhat more dense in 2010. In 2010 there is an average of 5.2 connecting arrows per company, whereas the average in 2004 was 3.1 arrows per company. As the arrows represent closeness of contact between the companies, it can be concluded that the Firsam project created new connections between the companies in the project.

There was also a detectable increase in relationships between the companies included in the two different groups (i.e. the EC group and the MC group). Figure 10 shows 17 arrows connecting the two groups in 2010, compared to 10 such arrows in 2004 (figure 8). The number of mutual relationships between the two groups also increased from 2 in 2004 to 3 in 2010. Nevertheless, there was only one company (EC6) that had more arrows connecting it to companies in the other group than to companies in its own group (table 4). In other words, the two groups had still not merged and integrated into a single cohesive network.

Over the timespan of the Firsam project, EC6 established more connections with companies representing the MC group than with companies representing the EC group of which EC6 was a member prior to the Firsam project. EC6 was a very recently formed company at the initiation stage of the Firsam project, and therefore expressed that it had not established many business contacts. It intended to use the Firsam project to form new business contacts in order to establish itself in the market. This probably explains why it became the only company to establish more contacts with companies from the other group of companies. EC6 also achieved a significantly higher centrality within the network in 2010, together with EC7, which was also recently formed in 2004. Aside from EC6 and EC7, the same companies that had high centrality in 2004, maintained this position in 2010.

The modularity percentage decreased somewhat in 2010, indicating that the two groups had begun to disperse (table 5). However the modularity percentage of the groups in 2010 still indicates a significant modularity between the groups, showing that the groups had not merged. The homophily separating the two groups also remains and opposes the merger of the Firsam network into a single cohesive network.
Figure 10: The Firsam network in 2010.

Table 4: Connections between the different groups within the Firsam network in 2010.
<table>
<thead>
<tr>
<th></th>
<th>2004</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>EC group</td>
<td>MC group</td>
</tr>
<tr>
<td>Expected percentage</td>
<td>53</td>
<td>33</td>
</tr>
<tr>
<td>Observed percentage</td>
<td>75</td>
<td>78.5</td>
</tr>
<tr>
<td>Modularity percentage</td>
<td>22</td>
<td>45.5</td>
</tr>
</tbody>
</table>

Table 5: Group modularity in the Firsam network in 2004 and in 2010.
7. Analyzing the network design

The network design is a description of both the process of how the regional strategic network was formed and its composition at a particular moment in time. According to the model for analysis of regional strategic networks by Hallén et al (2009b), the network design can be analyzed through five different aspects. I have chosen to focus on three of these aspects as the respondents’ description of the Firsam network can be derived from these aspects. These three aspects are the socio-economic factors of the region, the technology level of the included companies and the business complementarity of the companies in the network. These aspects form the headings in this subsection.

7.1 The socio-economic factors

According to Berggren et al (1999) the region’s influence on the strategic network that is formed in a particular geographic space has been the focal point of many researchers’ interest. The Silicon Valley in California, Emilio Romagna in Italy and Gnosjö in Sweden are well known areas were the local businesses seem to have favorable prerequisites for collaboration (Berggren et al 1999). The business climate of a region therefore seems to have an impact on the formation of regional strategic networks.

When discussing the reasons why the companies included in the Firsam project decided to join the project, an overwhelming majority mentioned a willingness to improve the regional business climate as their main reason. Obviously the intent to benefit financially as a company by joining the Firsam project is also mentioned by all the respondents, but a sense of doing something to increase regional development was prominent in the respondents’ answers. One respondent expressed the following sentiment:

*Why join yet another network project? That is the question. It is because…there is almost a local patriotic sentiment in this project. There have also been some interesting talks about clearly defined customer projects, where this kind of constellation (of the companies included in Firsam) might be very interesting.*  
(EC 3, 2004)

There was a consensus among the respondents that the business climate of Söderhamn was less than satisfactory. There was a sense of urgency to undertake some kind of activity to solve the deteriorating business culture in the region.

The reason behind the need for affirmative action is that this whole town (Söderhamn) might otherwise deteriorate. Since the mid 70s there have only been paper pulp mills and sawmills. That was followed by the closure of the air force base and of Emerson, the old Ericsson factory. These are not small employers. Something has to happen, and that is our main objective in joining Firsam. The people involved with Firsam are also major contributors to our decision to join. There have been several attempts to do this sort of thing in the past. They have all failed, with a few insignificant exceptions. It has always been the same story; there has never been enough management behind the projects. No one has come forward and taken charge. No one has set clear goals and focused on results. It has always become unfocused and resulted in nothing more than discussions.  
(MC 1, 2004)
This situation is somewhat different; there is an idea, a thought behind this project; that we will try to get these companies together in the form of a network. I think that we have reached a situation in Söderhamn were we have to do something in order to be able to stay in the region. We have to act in order to develop ourselves, both as companies and as a region. We have to make sure that the positive spirit that was present during our first meeting spreads to others in the region. I think that the spirit among the companies (in Firsam) is a very positive thing. But in order to make this collaboration count in the long run we have to create new jobs in Söderhamn, that is the goal and that is the parameter that we must judge ourselves by.

(N 1, 2004)

The respondents expressed a consensus, and described the competence level or business culture of the region as the source of the problem. The majority emphasized that this problem must be solved by the business owners operating in the region.

I do not think that the politicians can help us with anything of importance in Söderhamn; they have nothing to contribute. The only thing that they can do is give us the freedom to act by ourselves. But there is another aspect to their involvement; it is the education of the inhabitants. To make people understand what it takes to develop Söderhamn as a community. The politicians must talk to us (the local business owners) and then talk to the inhabitants in order to put the right education on the agenda. I do not think that the politicians are aware of the reasons why there have been a lot of closures of industries in Söderhamn. Maybe it is because Söderhamn’s location is less favorable from a production structural point of view. This might be the reason many businesses are transferring their production to China, you move the production closer to the marketplace. But you cannot escape the fact that the know-how of the local population has been less than in other areas, which have been more successful in recovering from closures of major businesses. Småland is an example of a region that has performed better. The average resident of Söderhamn is not as competent as the residents of Småland; it is as simple as that. I think that this realization is more important than any investments made by politicians in the local infrastructure. Companies must know that there is a competent workforce in Söderhamn. Today the sentiment among companies is the opposite. It is important to change this. I think that this project (Firsam) can address these issues, issues that might be uncomfortable for the politicians to touch upon, to educate the population, to introduce more modern systems thinking in the approach to business.

(N 1, 2004)

Another respondent expressed this commonly held opinion and criticized the politicians’ way of handling the diminishing amount of work in Söderhamn, and cited municipalities of the Småland region as role models for development.

The dependence-oriented culture is obviously a hindering factor in the progress of Söderhamn, that’s a fact. There has been research proving this, conducted in Avesta, I cannot remember by whom. The project owners of Firsam should read this research material. The local politicians should also try to understand the ins and outs of this issue. The goal must be to create more work opportunities in Söderhamn, thereby generating more tax income to invest in healthcare and schools. It is all so stuck in political jargon, but the jobs must be created in the industry first. It is not easy, but there is no reason why we should not be able to create 3–4 000 new jobs here if you are able to create 4–5–6 000 jobs in Gislaved in a three year period. They made sure that all of the inhabitants were employed again after the closures of Gislaveds major industries, so why cannot we do that?

(MC 1, 2004)

The dependence-oriented culture is expressed and explained by another respondent in a similar fashion, yet again highlighting Småland as a role model.

We have to learn from the people of Småland. If someone in Småland has a great idea and starts another company that becomes a supplier to the company that they worked for before, the company does not see this as unwanted competition. They see this as something positive. That is what we too must accomplish, a spirit like that, or a state of mind, whatever you might call it. We are more on our guard, we protect our territory, and we guard against each other instead of being open to new things. But I think it is getting better, we are on the right track. I think we can find a good working relationship between these companies (included in Firsam).

(EC 7, 2004)
Another respondent expressed a similar opinion about the hindering business culture of Söderhamn. The respondent focused on the individual business owners and attributed their unwillingness to develop their business to a feeling of insecurity among these individuals.

I think… how do you say it - it is easier to bring someone over from Stockholm, than to think that someone from this town might solve your problem. It is hard to become a prophet in your own town. Is it a lack of confidence? I think that it is based in a sort of insecurity in oneself. This is something that others often do not realize. They do not know-how to sit down with someone they hardly know and ask stupid questions. They do not dare to expose their ignorance. I think that this also results in a lack of courage to initiate the discussion of product design with a costumer. To help the costumer in the design of a product they are forced to take on things that they might not fully understand. There are also other instances where they overestimate the significance of their own knowledge and therefore do not try to get help. Consultants are expensive, and they are afraid, sort of. They do not dare to venture out of their own comfort zone. The goal (with Firsam) is to create employment opportunities and growth for the businesses in the region. I think that the business owners in the region would have accomplished that themselves, but the wheel (figure 7) helps to broaden the minds of the business owners when they are on the road visiting customers. This can really be great, if the business owners contribute to the whole (of Firsam) by seeing beyond just their own competence. If they invite others, if they feel that it is okay for others to make money from their business. (MC 4, 2004)

The effects of the dependence-oriented culture on the individual are described by another respondent as follows.

I think it is not only in this company, it is a basic human condition; we are raised to believe that if you get a lot to do, the first thing you do is not to go running for help from someone else. You try to solve the situation yourself, and deal with it. When you do that it can take time, and time is money. It can take a while to figure out that you have to include others, and deal with it in a different way. (EC 4, 2004)

The unwillingness to change one’s habits and ways of working is a condition often associated with the dependence-oriented culture. A respondent describes this sentiment:

The workforce is pretty constant; it is very rare that someone moves. The individuals that work here are the type of people who appreciate routines and a set timetable, unlike people employed in the maintenance department, who like to travel and work all over the place. The people that work here in Söderhamn want to go to work at a certain time, have their scheduled breaks and go home to their families. They want to know what is in front of them; they are fairly stable people. (MC 1, 2004)

The sense of considering each other as unwanted competition instead of working together as the prevailing sentiment in the business climate of Söderhamn is expressed by these respondents:

There are many things in this town that are sort of… You do not advertise for a welder in this town, that I had to learn. Talk about making a big mistake. It was like saying: now I am going to steal one of your guys. That was stupid; you just do not do that sort of thing. You do not advertise, you kind of check out the atmosphere and solve the situation in another way. That is the employment office’s big dilemma: you do not advertise, you solve the employment issue unofficially. (MC 3, 2004)

A lot of the problems that the local businesses face are due to fluctuations in the workforce. Sometimes they need a lot of people, sometimes less. Then there might be a workshop that needs workers, and another that has workers in excess. If you are able to collaborate then you might be able to use the resources better. This is easier said than done, since, in a region like this (Söderhamn) there is always someone who has stolen employees from someone else, taken their staff. And then, it is not easy to sit down and start working together. (N 2, 2004)
There has been a sort of generation shift (within the industrial sector in Söderhamn). There are many new people who have joined the region. Before there was a sense such as; his father would never have worked with his father, because that is the way it has always been. But today it is the sons that have taken over the businesses, and I was also a new arrival back in 1999. Therefore we never needed to go through all that nonsense. It is more fun to be able to call someone up and ask: how do you solve this problem? And, yes, these contacts have resulted in collaborations where we rent workforce from each other for a set hourly wage. We are also working together in contributing to the local schools. (...) But it is hard to say how much of the old attitude is still present in the region.

(MC 2, 2004)

The last quotation acknowledges the problem of collaborating in the region, but claims that this has improved with the generation shift in the businesses of Söderhamn. The collaboration the respondent is referring to is the strategic network of Verkstadscenrum.

7.2 Analysis out of the aspect of the bridging and bonding form of social capital

The recent closures of Emerson and the air force base in Söderhamn had developed a kind of urgency among the involved companies in the Firsam project. The sentiment that “something has to be done” was expressed by the respondents during the interviews conducted in 2004. “The reason behind the need for affirmative action is that this whole town (Söderhamn) might otherwise deteriorate” was the direct response of one respondent towards the question of why he got involved in the Firsam project in the first place. One respondent expressed that “there is almost a local patriotic sentiment in this project”. This so called “local patriotic” sentiment of a regional strategic network that the respondents expressed seemed to be welcomed among the companies for this very reason. Improving the business climate of the region and furthering the inherent know-how of the inhabitants of Söderhamn were very welcome visions, and so was the Firsam project. As well as the possibility of attracting more business to the local companies, which for obvious reasons seemed very attractive for the involved companies, the notion of making changes in the socio-economic milieu seemed to be important for the respondents interviewed in 2004.

Putnam (1993:89) claims that “internally, associations instill in their members habits of cooperation, solidarity and public-spiritedness”. These traits seemed to be present among the Firsam companies and the notion that bonding social capital might enforce common norms that in turn facilitate goal coalescing (Coleman 1988) seemed to be illustrated in the Firsam case. Coleman (1988) put forward the notion that the power benefits that the exchange of favors promotes allow the focal actors to get things done and achieve their goals. The expressed “local patriotic sentiment in this project” that influenced the participants might derive from a sentiment fueled by the influence of the bonding form of social capital. From this perspective the bonding form of social capital prevalent in the region might help the Firsam project to find a common ground for cooperation, and consequently help in goal coalescing within the project.

The current socio-economic milieu in Söderhamn was described very vividly by most of the respondents and their account of this milieu resembles the description given by Hammar and Svensson (2000) and Isaksson (2008) of the occurrence of the so called dependence-oriented culture in Söderhamn. Socio-economic factors were given as a reason why the employment rate had not increased since the closures of major industries in the region. Examples were given where municipalities in the region of Småland and in the Gnosjö area in particular were mentioned as being more successful in recovering from such closures. The area of Gnosjö is often mentioned as a region in Sweden where the companies in the municipality seem to be able to collaborate to a high degree (Berggren et al 1999). This is a notion that most of the respondents seemed to be aware of and therefore singled out areas in this vicinity as role models of the small business culture that they wished to create in Söderhamn. One respondent expressed that “there is no reason why we should not be able to create 3 000–4 000 new jobs here, if you are able to create 4 000–5 000–6 000 jobs in Gislaved over a three year period” thereby citing the town of Gislaved situated in Småland as a role model.
The explicit selection of areas in the Gnosjö region as role models for collaboration can be a result of the prolific exploitation of these areas in the media, which portrays them as areas where the local business culture is bountiful. On the other hand, the traits attributed to Söderhamn which postulate the existence of a dependence-oriented culture are expressed more implicitly and in various ways, which indicates that this notion is less affected by the power of suggestion by a medial discourse.

The effect of the dependence-oriented culture are described both on the regional level (as in fewer jobs produced by small companies) and on an individual level (as personal traits commonly held in the region). The personal traits include an unwillingness to ask for help from others and an unwillingness to accept new ideas and influences from outside one’s own frame of reference. Traditional values seem to be kept in circulation since the acquiring of new know-how is dealt with informally and within the already socially acquired and maintained frameworks. The risk of knowledge “lock-ins” and the notion brought forward by Nardone (2009) that these lock-ins might “oppress some members of a community from connecting with other communities and organizations” therefore seems very present in Söderhamn.

Molina-Morales et al (2009) put forward the notion that the effects of social capital in a region are not always considered to be a good thing in the study of clusters and networks. As an example of destructive social capital Molina-Morales et al highlight the risk that a network that is too dense might result in “over-embeddedness” in the network and existing relationship structure. The descriptions of the negative aspects of social capital given above are referred to by Hoyman and Faricy (2009) as characterizing the bonding form of social capital. When the social capital of a region encourages information lock-ins and over-embeddedness, innovation suffers and traditional values become prevalent.

The risk of lock-ins and over-embeddedness in the business climate of Söderhamn can be described as imminent based on the quotes presented above. Respondents say things like “you do not advertise, you solve the employment issue unofficially” and “his father would never have worked with his father, because that is the way it has always been” to describe the recruitment processes of the manufacturing industry in Söderhamn. As well as the recruitment process, the lock-ins also seem to be created by a sense of pride in being able to fend for oneself. “We are raised to believe that if you get a lot to do, the first thing you do is not go running for help from someone else. You try to solve the situation yourself, and deal with it” was one respondent’s view of the collaborative attitude among the companies in Söderhamn. Fear of exposing oneself to outsiders was another aspect of the lock-in attitude present in Söderhamn, which was expressed by one respondent as “they do not know-how to sit down with someone they hardly know and ask stupid questions. They do not dare to expose their ignorance”. The results of these lock-ins are described by the term dependence-oriented culture by the respondents, and are illustrated by quotations such as “we are more on our guard, we protect our territory, and we guard against each other instead of being open to new things” and “they are afraid, sort of. They do not dare to venture out of their own comfort zone”. The individual traits of the inhabitants of Söderhamn are described as “the people who work here in Söderhamn want to go to work at a certain time, have their scheduled breaks and go home to their families. They want to know what is in front of them, they are fairly stable people” once again highlighting the appreciation of stability and tradition that may be held as significant for the bonding type of social capital.

Quotes like “you do not advertise, you solve the employment issue unofficially”, “The workforce is pretty constant; it is very rare that someone moves” and “in a region like this (Söderhamn) there is always someone that has stolen employees from someone else, taken their staff” describes an attitude similar to Porte’s (1998) criticism of tightly-knit communities. Portes notes that strong norms in a community may dictate the sharing of resources among family members or between members of a tightly-knit group and thereby reduce the economic rationality of resource allocation. Instead of choosing the best qualified individual for a job someone with close social ties to the employer might get hired, creating a hindrance for the development of regional know-how. In regions where the local socio-economic climate is described as favorable towards regional growth, like Silicon Valley, the northern regions in Italy and the GGVV-region in Småland, the turnover of staff between local companies is often described as high (Berggren 1999). Forces that hinder the turnover of human capital in Söderhamn may indicate a negative effect of the bonding form of social capital that could get in the way of regional growth.
Changing the nature of the existing social capital in Söderhamn towards the type of social capital seen in regions like Gnosjö was previously mentioned as an important aspect of the Firsam project. One respondent expressed his vision for the Firsam project as a way in which “to educate the population, to introduce more modern systems thinking in the approach to business” thereby appointing Firsam as a solution to the lock-in of traditional views of business. Many respondents shared this view and stated that there was a problem within the business climate of Söderhamn, and that the problem was caused by traditional views of business development, a view that had to be changed.

7.3 The technology level

The technology level refers to the product or products that are the focus of the network design. If the product is of a complex nature the need for collaboration in its production is increased. Also, if the product in focus is complex the knowledge and complexity of the individual companies involved are consequently higher. The companies enter the network with these prerequisites with regard to their strategic, technological and structural complexity, and these prerequisites have an impact on the network design (Hallén et al 2009b).

Based on the theories regarding the network readiness of companies (Lundberg and Hallén 2004, Drauland 2003, Benassi 1995, Viewel and Hunter 1985) it can be concluded that companies or firms might have different prerequisites when it comes to working in networks. Some awareness of this notion is apparent in the material collected by interviews in 2004. A respondent expresses this notion as follows:

There are many different companies involved in this (Firsam), companies that start on different levels when it comes to collaboration, as in experience of collaborating. They start on different levels when it comes to the different markets that they act in. For instance, some of the companies are service companies and others are manufacturing companies which obviously gives them different prerequisites. But that is part of the fun: to get this working.

(EC 3, 2004)

In this quotation the respondent recognizes that the companies involved in the newly started network are a very heterogeneous group, a notion that most of the respondents seem to share. The respondent also connects the different prerequisites that the companies work with, with the product or service that the companies produce. This notion is very prevalent in the interview material from 2004. Most of the respondents seem to divide the companies included in the Firsam network into two major groups: companies that are solely manufactures and companies that are actively involved in the design of the product. The following quote exemplifies this notion.

When it comes to being subcontractors... a lot of the companies that produce circuit boards feel that they need to add more value to their production. There are two main ways in which you get an order today. You might be asked to produce the circuits, or you get asked to solve the whole production, issues, the whole lot. And as a designer of circuits, or as a design company, then you get an order; you need to produce and design this for us, then we want you to handle the production over the whole product life cycle. That is how the business works today; you pick what you want to do. I think it is easier for a company like us today (design company), because it is the design that is the central issue. To produce a product is an entirely different thing; you can get that done anywhere.

(EC 8, 2004)

The respondents portray a picture of the industry of electrical and manufacturing business (here explicitly including the production of electrical circuits) as divided into companies that take on the production, and others that are also involved in the design phase. In addition, the respondent sets his own company in the latter category and expresses that it is in the design phase that the real value is being created, or at least that is where he thinks his company creates its customer value.

The divide between the companies involved in designing and producing a product seems to be a central issue when the companies talk about each other and their prediction of the outcome of a future
collaboration. When analyzing the way in which the respondents talk about their product development and customer offering I see a clear pattern where the companies stemming from the MC group are more straight production and manufacturing companies, and the other companies representing the EC group are more involved in the design of the products. The four different quotations below come from respondents representing four different companies from the MC group, portraying their views on "what they do" as a company.

We are a manufacturing workshop, pretty traditional manufacturing. We manufacture equipment for the chemical industry, from the customers’ specifications and blueprints. We do not have our own products; we are solely a subcontracting manufacturer. My father started the business in the 60s, it has changed ownership a few times but now I run the company with my sister.
(MC 1, 2004)

Our company is built and organized to be a subcontracting manufacturer. To make our own products or to design products would be like starting a new company. You would have to fundamentally change the sales organization, and that would interfere with the subcontracting manufacturing production. Therefore it is not something we are willing to do. But Söderhamn needs many new products to be able to grow as a region; that is how I see it.
(MC 2, 2004)

We do not manufacture our own products. We have done that before, and I think that this was the factor that sank the other company. We developed some products for waste disposal, and the costs tended to mount quickly. But this company should only be a manufacturing company and do subcontracting manufacturing. We should only manufacture products after the customer’s blueprints, nothing else.
(MC 3, 2004)

We do not want to be product owners, we deal with subcontracting manufacturing. But we have quite a large responsibility in the subcontracting manufacturing process. We work closely with our customers in testing their products. We deliver the test results to the product owners, and then they might find possible weaknesses in their product.
(MC 5, 2004)

What the quotations all have in common is that they define the product offering of the companies as “manufacturing” with the emphasis on being “subcontracting” manufacturing companies. These companies thereby portray their customer offering as producing parts of an overall product from the specific blue prints or specified order of a customer. The overview of the finished products that meet the consuming customer therefore seems to be left to the other company making the order. Therefore, I interpret that these companies are solely involved in the production of a product (or parts thereof) and not in the design process. Only the last quotation portrays a sense of involvement in the “finished” product, limited to providing test results for the company that acts as the product owner. Still, the responsibility in implementing these test results in product development is left to the product owner.

Another aspect of the manufacturing companies’ view of their individual customer value is revealed in how they express the terms of competition in their business.

The decisive factor that determines whether we get an order or not is the time in which we can deliver and the price. We are always competing on the price; that is what matters.
(MC 2, 2004)

People may say what they like, but it is the price that matters. There is a lot of talk about other aspects that also matter, like service level compliance, but I do not believe that. If you ask people, if they could get a better price somewhere else, they would move their production, without doubt.
(MC 3, 2004)
It all comes down to the matter of price, I mean… If we are too expensive, it might be because we cannot
do the math, so to speak. We got the wrong models for calculating, we are not thinking correctly. We are
too lazy as well. We should really get some help here, get some new models for calculating, learn some
new stuff, maybe from the university, I do not know. If we can learn this, it would create some lasting re-
sults from this project (Firsam).
(MC 4, 2004)

These quotes illustrate a commonly held assumption among the companies in the MC group that it is
mainly the price that determines whether they get a customer or not. This might indicate that a blue-
print gets sent out by a prospective customer and the customer collects tenders from different compa-

nies and chooses the least expensive to be their supplier. I associate this with a very traditional market
structure where the rules of fierce competition among suppliers tend to lower the price for a powerful
customer. The intent to lock in the customer in offering other values such as specialized production
and an involvement in the design process of the product seems subordinate to the price variable in
these companies’ customer offering.

Of course, if we had more time in which to concentrate on making new connections, both with suppliers
and customers, that would be great. But, still, we are able to live up to our business concept since we have
all the resources ourselves.
(MC 3, 2004)

The quote above signifies the notion prevalent among the companies included in the MC group that
they are self-sufficient when it comes to their customer offering. Networking is seen as something that
might attract new customers but not something that is essential for fulfilling their customer offering. I
therefore interpret that these companies view their production somewhat autonomously from their sur-
roundings and that they control all the important resources themselves.

Our customers are the companies that are just a notch under the really big companies, they are relatively
large but they do not have the capacity to incorporate all the competence by themselves. So they are in
need of, not just us as manufactures, but also as designers and product developers (…) with these custom-
ers it is more of a collaboration than a supplier concept. Then you have the smaller companies, they do
not have the finances to buy this help from us, they do not have the need to either. It is the middle seg-
ment of customers that we would like to develop, to be more than just suppliers.
(EC 1, 2004)

I think that, as the internal organizations shrink, we must, everybody must, buy more of overall solutions
to problems. You have less time to spend on your transactions. The investments we have made, in con-
nection with networks, are results of the realization that we do not have the financials to fund all of the
development of our calibration technique. We must choose the parts that we are particularly skilled in,
and find partners that cover the other parts.
(EC 3, 2004)

Because we both design and manufacture the systems, we know more about their systems than the cus-
tomers do themselves. When we are out supporting our customers’ systems we can therefore suggest alte-
rations to their machines, to achieve certain effects. We can sort of be ahead of our customers and give
them advice. We manufacture their whole systems and are therefore able to see the weaknesses of their
systems and rectify them, and make them better. That is a positive effect of doing the whole loop of con-
struction, manufacturing and support.
(EC 8, 2004)
Some of the companies are skilled at manufacturing machines, but they cannot do the electrical components. We offer the solution, and it usually works out great. To be able to offer complete solutions for a customer we must work like that. We are a rather slimmed-down organization, and we have certain areas where we have pioneering expertise. All other applications we buy. Hardware design for circuits - there are so many companies that are skilled in this segment so there is no need for us to do that ourselves. Some of these companies that we work together with in this segment have joined Firsam.

(EC 2, 2004)

The firms in the EC group talk about their customer offering more in terms of offering all encompassing solutions to their customers’ problems and thereby take on a more collaborative role towards their customers. They seem to be more involved in the design phase of the product life cycle compared to the companies associated with the MC group, and thereby take a more active role in the product life cycle. These companies talk about their organizations as being less autonomous and more dependent on nurturing close relationships with both their own suppliers and their customers.

When it comes to describing the value in their customer offering the firms in the EC group do not mention price as the most significant variable at all, which was the dominant variable offered by the companies associated with the MC group. Below I cite the quotations given by the EC group of companies in connection with their customer value.

I think it is the personal contact that generates orders for us today. We must initiate a dialog, and I think it is the sensitivity in the discussions between us and the costumers that has evolved through sitting down and discussing orders and projects over a long period of time that produces long-term orders. There is often a long process of work before you land a sharp case, the tender arrives and the order gets signed.

(EC 2, 2004)

A lot of our production is governed by customer orders. A lot of the suggestions for making the machinery comes from our customers. These suggestions are run by our development department to reach the best possible solution. Therefore it is very seldom that we do that many of the same machine. The development process is so rapid that we change the process constantly. This is the tricky part: it is hard to get the profitability to follow the development. It takes a while to develop something new. But in order to keep our customers that is what we must do.

(EC 3, 2004)

As long as the technique is there and it is the right design, it has been done correctly from the outset; then anyone can produce it. It is like this, you might complain about a production company’s safety performance, that their process is useless. But it is usually the design of the product that determines this, and makes it possible to safeguard the process of the product.

(EC 8, 2004)

I think that we can see the whole picture, we know many areas. If you need help in the manufacturing of a product, we can help. We have the whole network in place. We also work with production related queries from a designer’s point of view. That way we are able to see the design of a product from the perspective of the production company, in that way we are able to find the most cost effective way of producing.

(EC 6, 2004)

If you have the lowest price, and are always able to deliver on time, then you might get by without a unique customer value. Otherwise you need a unique customer value since the competition is so fierce. There is always someone who is cheaper than you. It is all about understanding the customers’ problem and solving that problem faster, better and cheaper than the competition.

(EC 5, 2004)

Yet again the notion of nurturing close relationships by offering overall solutions comes across as the main variable in the EC group of companies’ rating of what is important in their customer value offering. Specialized production and custom-made solutions are used as a way to attract customers, and to keep them in the long run.
When it comes to calibrating you do not switch supplier easily. As a supplier you really have to mess things up to lose your client. When it comes to the testing system, it is more project dependent. You spend 6 months with a client, then it takes 3 years after which you do another 6 months with the same client. It is dependent on the product development projects the client gets, but it is the same clients that keep coming back.
(EC 8, 2004)

If you look at all of our customers today, at least the bigger customers, then you can state that all of them have emerged as a consequence of us doing some sort of design. After this we deal with their product administration, thereby safeguarding that our customers will stay with us. There is only one customer that we have not done the design for, which is growing to become a significant customer; that is all. So obviously, I see the design side as our strongest feature.
(EC 2, 2004)

The differences between the two groups of companies are also apparent in the prior experience in working in networks. The companies included in the MC group all highlight this networking experience as their main experience of networking. They describe the benefits of working in this network in the following manner.

We (Verkstadscentrum) have worked on joint purchasing agreements, to be able to buy material at discounted prices. We have saved money on these agreements, so that has been the motivation for joining. Then we have done other things that you might not see the financial benefits from right away, like the work we have done with the school; that has also been good.
(MC 1, 2004)

When it comes to Verkstadscentrum…we have done a very good job considering the work we have done for the school. Then it has been a lot of energy wasted on supplier agreement, on steel, gas and such things. That is totally uninteresting for us. If they want to have that focus they are welcome. It does not concern us; we do not work in this network continuously.
(MC 4, 2004)

I think we (Verkstadscentrum) have succeeded in certain areas. We have negotiated some purchasing agreements, and we have also managed to lend each other staff on a fixed hourly rate.
(MC 2, 2004)

We (Verkstadscentrum) work together with the school. We…we help each other in our purchases of gas, for example. We have a purchasing agreement that the association developed, that has generated a lot of money for the companies that have been able to take advantage of these agreements.
(MC 3, 2004)

The purpose of the strategic network Verkstadscentrum seems to be that it has jointly negotiated orders for material used in production and thereby taken advantage of the discounts that bulk buying can bring. It also arranges the distribution of trainees from the local high school among member companies, thereby supporting the school’s industrial program. The firms have also negotiated among themselves a set hourly rate that makes it easier for the companies within the network to lend each other work force when they have resources available. If one company in the network has staff that does not have projects to work on they can consequently work on a project managed by another company in the network for an hourly rate.

The companies associated with the EC group all have experience with working in different network structures. They describe these experiences in a somewhat different manner than the members of the MC group.
Yes, I am a believer in networking and have worked with them for many years. This is the main reason that we, such a small company, are able to undertake such big jobs. We have taken all-encompassing development projects for Ericsson as an example, Ericsson Telecom that is. We have a rather large network around us that we work with on a daily basis, even if we do not always think of this as networking. The network consists of mechanics companies, hardware developers and software developers, even in mechanics design we have several companies that we work with on a daily basis. So, if you look at the customer solutions that we sell, they are all a result of a network, but it is us that the customer meets and we represent the network outwards.

(EC 2, 2004)

For the last 2–3 years we have worked with network partners that are able to produce mechanical parts that lie in a higher frequency level than we are able to produce ourselves. Thereby we are able to deliver a complete products list (to our customers). We have this products register; that kind of ties it all together, therefore it feels like a natural solution to be able to produce a complete list of products, even if we as a company cannot produce all of them ourselves.

(EC 8, 2004)

We feel that we need this to be able to go out into the market as a small company and still be trustworthy; we need all the parts that have a function in the industry. Mätcentrum is an obvious example; it covers the segment of calibration. Schaffner and SAAB-Test are very prominent in this sector also, with Emerson as their biggest client. (...) Endevo is a consulting firm in software. They work with the same software as we do, but they have more resources. If we encounter a project, and need three persons under a six month period with know-how we do not have ourselves, we can still take the project. By using our partners in the network our company receives higher credibility. We cannot just be in a local network; that is not enough in our business. We must highlight that Techpro, for instance, it delivers to Intel, IBM and all the large companies and it also delivers globally. Therefore, delivering to China is no problem for us, if one of our Swedish customers wants us to.

(EC 3, 2004)

We are a part of a network in Uppsala, with a lot of medical companies. (...)They have a very advanced production technique when they develop medication. You must be able to measure, so that you produce the right kind of medicine in your machines. It is a very intricate process. We are involved in developing these kinds of machines, to design them and to safeguard the quality of the machines. (...) We are somewhat responsible for the overview of these developments, to overview tenders from the companies. (...) There are a lot of different companies from Uppsala and Stockholm included in the network.

(EC 8, 2004)

The companies in the EC group all seem to regard networking activities as a necessary means to fulfill their customer value. They talk about networking as a part of fulfilling their business idea or as a way in which to attract customers. Also, some of these companies seem to be aware that they are perceived as a part of a network by their customers. They view their reputation to be dependent on their ability to be affiliated with the right firms in their network.

7.4 Awareness of the difference in technology level within the project

I have given account of a division between the companies included in the Firsam project in the previous subsection. This division can be described as originating from the different business ideas that constitute the companies development. There are companies that are involved in the design of a product, generally associated with the EC group, and there are companies that work solely with the production of products or subcontracting manufacturing. The latter group is associated with the MC group. The difference between these two groups is discussed differently by the respondents. What unifies a significant number of them is that they describe a difference in culture between the groups. This difference is portrayed as posing a risk of a culture clash within the Firsam project. The quotations below are all taken from respondents representing companies in the EC group, or companies not representing any of the two groups.
You should not conclude that just because we speak the same language and we all are from the same region; that we can speak to each other. There is a difference in culture; you express different things in a different manner depending on the line of business you are in.

(N 1, 2004)

I think that I can contribute with a product focused line of thinking in this project, to question the overall attitude in this project, but in a constructive manner. I mean, it is a hell of a difference between being a subcontractor, and to make the final product, the complete product. When you are a subcontractor, you are in the hands of others. You are not able to set your own schedule. You do not have the freedom to be creative, or you might be creative, depending on the customer, like, you must lower your costs, and those kinds of things. But, it is a lot harder to control your own situation. I mean, “How well is your customer doing?” “Is he doing well, or not?” If you for instance come up with an idea and asks him, “I got an idea but we need some new tools, you need to pay 10 000 up front. After that we can make the production more efficient”. If you cannot get the money “then what?” You will eventually become too expensive… and… then your business will go out of the window. If you have your own products then obviously you will have to make a business intelligence analysis in a completely different way. Then you become more open minded, to new products and new thoughts. This mindset you can take with you in all business operations.

(N 2, 2004)

Like, ask them if they feel like making their own products. Then they would likely say; “No, this company will never make our own products”. They probably see how difficult other companies, their customers, believe this to be. To get complete blueprints and to manufacture, they see the problems others have. We, on the other hand, would never want to be a subcontractor, all the way, cut and weld for an hourly fee that is like… totally tiresome. It is not that creative, I mean, it is a totally different outlook on things.

(EC 7, 2004)

In Firsam for instance, there are a lot of companies that focus more and more on the manufacturing of products. Which is very nice and good, but there is a huge difference… now I am talking from a design company’s point of view. We only have people dealing with the design of things, on different levels. But, if you are a production company, you produce things… I mean; it is very easy to see the difference between those who only produce and those who deal with the manufacturing, even when you look at the people that are employed here, and the people that employ the staff. “What do I look for when I employ a practical engineer?” I have a certain focus, “what is it that this person must be able to do?” But, on the other hand, if you look at our staff in the design groups, they are completely different, they think different. This is a thing that you must learn, to realize, that it is a complete different thing, different preferences. You must look, not only that he has a master degree in engineering, but also at how he or she thinks.

(EC 8, 2004)

Yes, I hope that everyone will be able to add things to the project. The question is only, what? I mean, we work on such different levels. Many of these companies are manufacturers; they manufacture things in this region. But we are out travelling all over Sweden, they do not do that. Therefore I think we have more to contribute with, than they have. Also, we can not afford to be so... we must be open to new things. We, in my company, have only been around for two years; we must be open to new ideas.

(EC 7, 2004)

I do not think that we will have any problems in understanding any of the manufacturing companies. We are also from that world initially; I have trained people in that business and know people there. Some of these people I have worked with during my time at Ericsson (…) so when it comes to production, I understand where they are coming from. But, it might be harder for them to understand us. It is like, they think we are consultants, designers, and we only cost money.

(EC 7, 2004)

There is completely different staff, or competence, in the companies that are solely manufacturing sub suppliers than in the sort of business that we are in. Hopefully this network, or collaboration, works in a way that we understand to benefit from this. That some initiatives are taken to overcome this type of… There is a strong difference in how we perceive the world.

(EC 1, 2004)
With regard to the quote given by the last respondent above regarding the difference in the conception of the world I think it is vital to add that all the respondents cited above were in the EC group. The members of the MC group did acknowledge the culture clash between the two groups but expressed them differently.

No, I do not think that it will generate any orders (Firsam). Now I am comparing it to Verkstadscenrument; there we were a more homogeneous group, when it comes to being active in the manufacturing industry and subcontracting manufacturing business. Yes, we might have been more of competitors, but we still had more in common with each other. That way it was a lot easier to understand what the others were doing, so to speak. In Firsam, it was more influenced by Arild, he came from the electronics side of things and in that field of business it felt like we, in the manufacturing industry and subcontracting manufacturing business, did not have anything to benefit from.

(MC 2, 2004)

We are coming from completely different worlds, the electronics field and the manufacturing field. Also, there are some issues with this so called “Söderhamn spirit”; some companies you really feel like helping and supporting, since they are really funny people and interesting to meet, while others you do not feel at all comfortable with. If you do not feel like it, you will never help them get jobs and ask them to be a part of the process.

(MC 3, 2004)

It takes a lot of knowledge. If you are from the electronics business and set out to sell and take in jobs to the steel manufacturing business, you need to know more than you might be interested in learning. You must have a tremendous commitment to the whole of the Söderhamn region and in the entire manufacturing business to be able to operate on all these fields of business. I do not know if such a person even exists.

(MC 4, 2004)

Yes, it is a motley combination of companies that might be in need of a more business minded approach in its assembly, to group the companies together after their compatibility.

(MC 5, 2004)

It is like… I have felt that Arild has a lot of connections when it comes to electronics, it has been a lot about EC 3, EC 4 and EC1. That has been Arild’s natural focus. So if you ask Arild…it has always been… or it feels like that to me… that it is the electronics that is the common nominator in this project. That is the foundation upon which he built the project. Since we are the part that has been added on afterwards, the manufacturing part, I do not feel a natural connection with the electronics companies, I must confess. So the companies I do not feel that I have a connection with are such as EC 8, EC 6, EC 7 and EC 3.

(MC 2, 2004)

7.5 Analysis out of the aspect of the bridging and bonding form of social capital

In analyzing the quantifiable data describing the Firsam network I have established that the two groups MC and EC are kept apart by a strong internal homophily (table 3). By analyzing the qualitative data I have presented some clues to how these groups might differ in terms of specifying their respective common traits. These common traits within the groups are probably the cause of the homophily detected within the network.

The EC companies describe their business offering as an offering of all-encompassing solutions to the customers’ quite intricate needs. A respondent claimed that “it is very seldom that we do that many of the same machine. The development process is so rapid, that we change the process constantly” and another claimed that “It is all about understanding the customers’ problem and solving that problem faster, better and cheaper than the competition”. This view of their business offering indicates that their strategy is both very collaborative and strategically complex, features that seem significant in de-
fining the companies associated with the EC group. These companies also talk about their previous experience of working strategically within networks in a manner that indicates that they have a well developed strategy of dealing with their networks. A respondent from the EC group of companies said: “I am a believer in networking and have worked with them for many years. This is the main reason that we, such a small company, are able to undertake such big jobs”. Another respondent claimed: “For the last 2–3 years we have worked with network partners that are able to produce mechanical parts that lie in a higher frequency level than we are able to produce our selves”. They also indicated that they had experience of working with vertical collaboration since they describe their network collaboration as a way of adding value in a product’s value chain.

The other group of companies (the MC group) in the Firsam strategic network were all associated with the previous collaboration project called Verkstadscentrum. This collaboration project was an effort to combine the strengths of the manufacturing companies in Söderhamn to make joint purchases of materials and to share resources by lending each other staff. These companies are all manufacturing companies, predominantly working with subcontracting manufacturing. One respondent described their business as: “We are a manufacturing workshop, pretty traditional manufacturing. We manufacture equipment for the chemical industry, from the customers’ specifications and blueprints”. Another respondent said “our company is built and organized to be a subcontractor manufacturer. To make our own products or to design products would be like starting a new company”. These companies are therefore predominantly involved in production and not in the design of the products they are producing. They focus on their own part of the product chain without taking any further part in the development of the product that the end consumer sees. This group seems to predominantly produce a part of the final product from the blueprint which they receive from their customers. They therefore compete on price instead of through a stake in the complete product chain. In order to explain the unique selling point of their business a respondent representing a company in the MC group expressed: “We are always competing on the price; that is what matters”. Another respondent expressed a similar view: “People may say what they like, but it is the price that matters”.

Ouchi (1980) differentiates between networks, clans and markets and defines “markets” as the forms of transaction where open competition determines the outcome of a business deal. In this form of operation every transaction is preceded by a search of the entire marketplace for the best deal. The price variable is often considered important and it seems that this form of logic determines the business offering of the companies associated with the MC group. Ouchi (1980) defines the network logic as based on a notion that the savings in transaction cost that long-term commitment between a supplier and a customer generates outweigh the reduction in price that fierce competition in a market setting creates. This long-term focus on creating strong ties between themselves and their customers seems to guide the companies belonging to the EC group. The transactions that these companies are involved in therefore stem from the network logic which significantly distinguishes them from the companies associated with the MC group. Strategically management of networks is therefore a more accepted strategy in market penetration within the EC group than among the MC group companies.

The statement by a respondent representing the MC group, “we are able to live up to our business concept since we have all the resources ourselves” illustrates that the companies in the MC group tend to control their resources internally within the organization. On the other hand, the EC group companies are used to creating inter-organizational ties that secure the required resources. The EC group companies therefore strategically manage networks while the MC companies manage their internal organization. Managing networks entails making connections outside one’s own social context, inspired by the logic behind the bridging form of social capital. A focus on internal management might on the other hand have a bonding effect on one’s own organization. The EC group therefore seems to facilitate the creation of the bridging form of social capital, while the MC group seems to be governed by logic consistent with the bonding form of social capital.

Houghton et al (2009) claim that there is a direct link between a firm’s social capital, the firm’s involvement in external networks and the firm’s technological complexity. The more external relationships and collaboration projects a company has, the more complex their strategy and product development seem to be. Moreover, the complexity of the company is linked to the innovativeness of the
company’s product development. A company with a lot of external collaboration is according to Houghton et al (2009) more complex in strategy and more innovative in product development.

When it comes to the experience of working strategically with networks the respondents representing companies within the MC group all mention the collaboration within Verkstadscentrum as their main experience of working collaboratively with other companies. Some of these companies even mention this collaboration as their only experience of working strategically within a network. The collaboration initiated through Verkstadscentrum was exclusive to manufacturing companies, and the group therefore consisted of companies that work in similar areas of business. The companies were therefore often direct competitors. The collaboration consisted of joint purchases of material and of hiring staff from each other at a fixed hourly rate. The way in which the companies associated with the MC group describe their network experiences resembles what Ager et al (2000) call horizontal collaboration. Horizontal collaboration entails sharing resources among similar and often competing companies, while vertical collaboration consists of companies undertaking different stages in product development (Ager et al 2000).

The notion proffered by Houghton et al (2009), linking the collaborative stance, the strategic complexity and the innovative development of a company together seems to be embodied in the Firsam project. There is a strong link between these three attributes when it comes to the difference in technology level among the companies included in the project. Based on the interviews conducted in 2004 the EC group seems to be used to working in vertical collaborations and the MC group is used to horizontal collaboration. Shan et al (1994) highlight the connection between a firm’s innovation output and the number of collaborative relationships of the firm. Shans et al’s (1994) conclusion was that the more relationships a firm has, the higher is the resultant innovation output. Since firms in the EC group had more experience of working in vertical collaboration they would also according to Shan et al (1994) have higher innovation output when it comes to their business development. Based on my analysis of the interviews conducted in 2004 I find this to be true. The companies in the EC group were generally more active in the design of new products and can therefore be considered to have higher innovation output. The difference in both strategic complexity and experience of prior collaboration among the included companies gave the Firsam project its prerequisites for joint collaboration. Draulans al (2003) claim that companies that have experience in working with alliances do better in creating and maintaining new alliances, and that working in strategic alliances is a craft that must be learnt. The different outlooks and levels of experience in working with strategic alliances and networks also affected the Firsam project, an aspect that is discussed in more detail later in this thesis.

The difference between the two groups, EC and MC, was noticed by the respondents and expressed in the interviews conducted in 2004. One respondent from the EC group expressed: “There is a difference in culture; you express different things in a different manner depending on the line of business you are in”, thereby highlighting that the proposed meeting of the two groups initiated by Firsam might not work that smoothly. Another respondent from the EC group also expressed the differences between the companies in the Firsam project derived from the different levels of involvement in the product value chain: “I mean, it is a hell of a difference between being a subcontractor, and to make the final product, the complete product.” The reasoning by the respondents concerning the difference between the manufacturing companies and the designing companies seems to entail a difference in attitude on an individual level. A respondent claimed that “if you look at our staff in the design groups, they are completely different, they think different (than the practical engineers)”. Another respondent linked this difference with creativity and proclaims “We, on the other hand, would never want to be a subcontractor, all the way, cut and weld for an hourly fee that is like…totally tiresome. It is not that creative, I mean, it is a totally different outlook on things”. The companies in the EC group seem to connect the designing companies with a freer and more creative outlook on their business. This difference in outlook is stressed in the interviews conducted in 2004 as a source of problems in the merger of these different companies within Firsam.

Houghton et al (2009) claim that there is a connection between social capital and innovation where a strong involvement in inter-organizational networks facilitates an innovative stance towards an organizations development. It is therefore not surprising that the more network focused EC group, where most of the designing companies are found, express that they are more innovative in their outlook on
The companies associated with the MC group also felt there was friction between the two groups within the Firsam project. Some respondents from the MC group felt that the Firsam project had a focus on the electronics business from the outset since the project leader, Arild Frånberg, came from this line of business. One respondent felt: “In Firsam, it was more influenced by Arild, he came from the electronics side of things and in that field of business it felt like we, in the manufacturing industry and subcontracting manufacturing business, did not have anything to benefit from.” Here the significant difference between the two groups is described as a group consisting of companies within the electronics field and another group consisting of manufacturing companies. The major difference is therefore not made between designing and producing companies as the EC group of companies seemed to claim but between the different areas of business that the companies are active in. Another respondent claimed: “Since we are the part that has been added on afterwards, the manufacturing part, I do not feel a natural connection with the electronics companies, I must confess”. A sense of two divided groups within the Firsam strategic network became evident and the MC group felt alienated, since the majority of the companies were from the EC group. Moreover, the network management was connected to the former Ericsson plant which meant the project had specific related prerequisites.

This negative stance expressed by the MC group companies towards working with the EC group companies may be related to the socio-economic climate within the Söderhamn region. If the MC group of companies are more influenced by the bonding form of social capital and less used to working in networks of vertical cooperation it is understandable that this group show a higher internal modularity percentage than the EC group (table 5). The dependence-oriented culture prevalent in the region is described as less than nurturing to novel business structures and this culture might have a larger influence on this group. The homophily forming and keeping these groups apart is visible in the quantifiable data and is also expressed by the respondents during the interviews. It seems as though the main challenge facing the Firsam project is to merge these groups to form a cohesive network.

7.6 Business complementarity

The aspect of business complementarity describes how the companies in a network complement each other. A network can be formed around the notion that the included companies undertake business activities that build upon each other towards a final product. The companies form a joint product chain where the companies undertake different stages in product development. This type of group effort is sometimes referred to as vertical collaboration. The opposite way of designing a network would be to include companies that compete with each other. The included companies would then undertake similar activities and be active within the same markets. Similar activities would enable them to make joint purchases or share resources in their production (Hallén et al 2009b).

From the interviews conducted with the network management group I detected the notion that the culture clash between the different companies constituted the main reason for the project. The strength behind the project was described as stemming from the assembly of companies with different business
ideas, as the meeting of their different company cultures and business directions would create something new in the form of vertical collaboration.

Fifteen companies were involved from the outset, and they were from different lines of business. It was everything from EC 7 in education to MC 4 in construction. The general idea was to bring in ideas externally that needed to be worked on, some designing, some manufacturing and some marketing. Then you would have the opportunity to put together some of these companies to work together on this project. That was probably the thing that some people thought was innovative, and the thing that some of the companies did not understand – that they were all different kind of companies. It was a lot of people that asked: “Why don’t you gather only the manufacturing companies?” But we never thought that was a good idea. Probably that would have been considered the obvious thing to do, but we did not think like that. I thought the general idea was great: to gather these different companies to be able to do different elements in the production process, and finally deliver a complete product or parts of a final product to customers and other companies.

(MG 2, 2010)

Arild handpicked the companies. There were the companies from Verkstadcentrum and then some other companies, and sure, it was a straggling mix. His idea also consisted of the notion that by putting together a straggling mix of companies the network would be able to undertake different steps in the production, steps that are needed in order to deliver a complex all en compassing product, or to be able to cater for customers that demand mechanical manufacturing, cable assembly and electronics, in short: all the components that you need in order to create a final product.

(MG 1, 2010)

I am still skeptical towards the practice that when you assemble networks it is always very similar companies that get included. It creates like-mindedness. Then the companies do not have the opportunities to call each other and say “hello, I need these components spray painted” or “hello, I need cable assembling on this product”. They do not understand this way of thinking, and it was this way of thinking that was the general idea behind this project (Firsam).

(MG 2, 2010)

The majority of the respondents representing the companies in the Firsam project shared this notion. Below I quote a few statements from companies representing the EC group.

Firsam is a very interesting step towards this, to be able to, I mean, if you look at Firsam, then you get competence in a whole lot of different areas. This is because of the mixture of different companies. What we (the individual company) add is good solid logistical solutions.

(EC 5, 2004)

What can we contribute with? Competence and resources in the manufacturing process of products, is an example. And together with these other companies that make part of this group; we have an almost complete spread of competence and resources to undertake large orders. We have everything, from product development to logistics, and everything in between, the whole of the product life cycle. I also think that if we can show potential customers that we have a well established cooperation here in the region, then our chances to get a positive decision regarding where the customers’ production is going to be placed, or where the establishing of a new company might end up, are increased. This because they can see for themselves that we have a fully functioning network of companies that are able to provide them with the things they need.

(EC 4, 2004)
How do we see our role in this wheel? Competence in product development and all the things that are included in that sort of thing, like the creation of customer relationships. A lot of the other companies’ customers might get an inquiry about the production of a single piece. Then it is important to understand that… to see beyond. When you are visiting that customer, you look at that piece of steel that you are supposed to manufacture, but you must question, what is coming next. This piece of steel is supposed to go somewhere, it is a part of something, is it supposed to go into a box, what else is supposed to go into that box, how is it going to be wrapped… all that stuff… and we got all that stuff in this project. The vital part is that as a supplier of a piece, regardless if it is the paper box or the product design, you act to catch all the other stuff that is supposed to go into the product. To say: “Ok, we can do this as well”, “we got this network here”, and bring it into this wheel, to be distributed among the companies. I mean, this is something that I have been naggng about to my employees. When you are with a client, visiting a client, ask what else they might need help with. What else are they doing? I mean, if they have a design, then we know that the marketing department needs some kind of information regarding this. We know that they need some sort of manual for spare parts, which someone around here can print. It is all about creating that initial trust, and then you are able to talk to your customer and build some sort of collaboration.

(EC 4, 2004)

The goal (with Firsam) is to create employment opportunities and growth for the businesses in the region. I think that the business owners in the region can make this happen themselves, but the wheel helps in broadening the minds of the business owners when they are on the road visiting costumers. This can really be great, if the business owners are contributing to the whole (of Firsam) by seeing beyond just their own competence. If they invite others, if they feel that it is okay for others to make money of their business.

(EC 7, 2004)

It is important for our local marketplace that something new is created after Emerson. That must be considered as the main purpose of this project, to keep us up to date and be a part of that collaboration as much as we are able to. I also think that this constellation of companies, and the competence that exists among them, should enable us to deliver something. I actually think that the constellation feels rather complete. If you look at it from a products perspective, then we have everything. From the development stage, to be able to develop blue-prints and design the product, to produce the product in different stages, like mechanical, electrical and testing of the goods. We can produce the product, test the product, deliver the product logistically, and deal with the service aspect of the product. All of these stages are present within the network. It is all about finding the right customer project, and making sure that it amounts to something real.

(EC 3, 2004)

I see… enormous benefits to this project. You have full coverage within the production and manufacturing areas, everything from an idea to a finished product, really. There are also opportunities for companies to grow and develop in Söderhamn, all of a sudden there are a lot of facilities and workforce. This is a project that will hopefully be a driving force for the community.

(EC 6, 2004)

Some companies that were involved in the MC group prior to Firsam also shared this notion.

We and EC 1 had some sort of collaboration prior to this. EC 1 had a designing unit at our site back then. It was supposed to be a sort of wheel like Firsam, with us at the hub, technical companies with a set of suppliers gathered around. The general idea was already present back then. It did not work out that well. I was also, together with the university, down in northern Italy, in Venice and Padua, those areas, to investigate. I cannot remember exactly when, but in 2001 or 2000, it was together with the university. We looked at the local trade and industry there, and their collaboration with the universities. They had some sort of industrial park that employed 25 000 people in different companies. They had a third part logistics, with access to trains and a railroad. They even had their own harbor, but without any connection to the sea. They built the harbor first, and then they never built the canal. The general idea behind the industrial park was that an inventor is not an entrepreneur in 99% of the cases; therefore they had an entrepreneur’s bank and a lot of inventors that came in from the outside. Then they paired up, enabling the inventor to invent and the entrepreneur to market. They had understood that the inventor must come to the realization that he is not the center of the universe.

(MC 4, 2004)
If you look at what we contribute, we contribute with the manufacturing part. If you look at the whole of Firsam’s wheel, then you have everything, from design, development, to all of the components in the business development of a new and large company. Verkstadscentrum is the natural part of the manufacturing side of this project, so to speak. Now Firsam wants to go out and sell the combined forces of this project, and, sure there might be some companies that will take the bait. Sure it can… that is the goal of the project that we will be able to attract new companies to fill up Arild’s facilities. That is the set goal. If we attract the development of more products it will obviously increase growth in Söderhamn, which is a positive thing. (MC 2, 2004)

We combined Verkstadscentrum with Firsam, which was done after my time as active in Verkstadscentrum. That made a whole lot of difference; Verkstadscentrum is a merger of manufacturing companies, traditional manufacturing, and there are probably 25 or even 50 of these groups around Sweden. I do not think that there are that many groups like Firsam, with that kind of diversity, and the thought behind the wheel. That is the thing that made this project interesting to me, and also the thing that ClimateWell had realized; this type of collaboration. (MC 3, 2004)

Firsam has this connection that Verkstadscentrum lacks, this connection that I think is so good, to connect everything, from idea all the way to a finished product. That is what attracts me to this project. In this project I do not see the issue of joint buying power as the central point; you cannot take advantage of this as we did in Verkstadscentrum. It is the opportunity to be able to offer this, a whole concept; it is like all the companies are just departments of the same, but larger, company. Therefore, if we are calculating towards a price in a joint project, every company must like a department of a company learn to think and calculate in the right manner. I thought that this is feasible, I agree with this, even if I did not want to go down that road with Verkstadscentrum. It was Persson2 that supported that way of working, from a product point of view, to own products. I agreed fully but I did not want to express that opinion since I was the only company that had its own products already. It is like being an AIK3 supporter and talking about which team is the best, people won’t believe in you, it is like propaganda. (MC 3, 2004)

This project is, sort of… from idea to the finished product. I want us to build more products in Söderhamn. To produce whole products, that is what we should be networking around. (MC 5, 2004)

The so called “wheel” (figure 7) was used to depict the notion that the network management group had to encompassing everything “from idea to the final customer in one chain”. A respondent representing the network management group in the Firsam network explained the reasoning behind the implementation of the “wheel”, in the following quote and example.

We tried to make them change their opinion about themselves or their identity, so to speak. When we started this process they said: “We are subcontractors, we manufacture, if the customer wants a 10 by 10 centimeters piece of steel with four holes in it; that is what we do”. We thought: “What if you accept a little more responsibility for the product, if the product needs something else to be designed or added to it, what if you re-design it to be custom-made for automation production?” That makes it possible to help in that regard as well. Also, what happens when you take a little more responsibility for the product, and you venture a little further in the product development? Will the customer change supplier then? (MG 1, 2010)

In this quote the respondent from the network management group indicates that there might have been a lack of understanding among some of the companies in the Firsam project about the importance of seeing beyond their own involvement in the manufacturing process of a product. The following quotations taken from respondents representing companies from the MC group serve to justify this notion.

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2 One of the educators brought in by the Firsam management group to conduct some of the joint education programmes.
3 Swedish football team from Solna in Stockholm.
It feels somewhat forced, I definitely think so. It consists of companies with somewhat different directions. There is no way in which these companies will be able to work together without friction. If we are going to be able to work together, we must have a company that takes on a more proactive role and takes on a bigger case. That company must then divide the labor among several different companies. That is the only way in which this will work.
(MC 1, 2004)

Firsam turned out, I think, out of Arild’s preferences. He came from the electronics business and therefore it felt like we from the manufacturing industry and subcontracting manufacturing did not have anything to gain from the project. It was that sort of direction in the project and that sort of costumers that were visited. It was not the intention to support the manufacturing industry of Söderhamn, but to save the Emerson Company, that steered the project. That was the feeling I was left with.
(MC 2, 2004)

You could be able to work together on purchasing, maybe not marketing, but purchasing, not like sales but maybe marketing. That is all… But, if you look at education and staff it is like, a lot of the problems that the local businesses face are the fluctuations in the workforce. Sometimes they need a lot of people, sometimes less. Then there might be a workshop that needs workers, and another that has an excess. If you are able to collaborate then you might be able to use the resources better. This is easier said than done. Since, in a region like this (Söderhamn) there is always someone that has stolen employees from someone else, taken their staff. And then, it is not easy to sit down and start working together. These kinds of collaboration are hard.
(MC 3, 2004)

We work a lot with the product owners, but they have the responsibility since it is they that approach us. They want their production done. Also, it is like, like… their products; I do not know-how to explain. We do not want to own the products. On the other hand, maybe there could be some sort of spin-off effect. If we have a lot of skill in the manufacturing process of a certain product and that product is similar to another product that does not fit in our customer’s product stock, then maybe we could start some collaboration where we own part of a new product. It is all very abstract, this way of thinking.
(MC 2, 2004)

Since there is no one that can understand the business of all companies involved (in Firsam) and therefore able to run the project, I think it is unrealistic to believe that we can work together in a network at all. People that can run this sort of project never become unemployed. They get a job and are already busy. There might on the other hand be some subgroup of companies that fit each other, and they will form some kind of working relationship.
(MC 1, 2004)

These quotations above illustrate a lack of belief in the process that the network management group wanted to introduce in the Firsam project. Some of the respondents representing the MC group did however express an understanding of an elevated involvement in the whole production process of a product, even though most of them did not. Below I state some of the quotes representing some of the more sympathetic views towards the project, expressed by companies from the MC group.

Yes, somehow I think, I mean, if they for example get a request for a tender and they are 30 % more expensive than the competition, then they must ask themselves: “Have we calculated this wrongly? Do we have the wrong production park, or can we redo the design of the product to fit our existing production park?” To ask the customer: “Can we get two days in which to look at the design, to change the design of the product?” To do something, offer something else of value to the customer. But, then they have to visit them, so that they can sit down and look at it together. Then maybe they can adapt the product to the production that they can manage, and the price would be right. But, that way of thinking is completely absent. They just shrug their shoulders and say: “We were too expensive”.
(MC 5, 2004)
It was regarding some kind of hatch for Electrolux, who had a Swedish network of subcontractors. Then they went to Poland and asked them about the hatch. They were a lot cheaper there, so obviously they wanted to move the production. It was something like 30 different components in the hatch. Then this group of subcontractors in Sweden looked at the design of the hatch, to come up with suggestions on how to change it, in order to compete. They managed to narrow it down to three different components, or four, something like that. They basically changed the whole machine, and made it possible to mass-produce it. That made it much cheaper. That is how we must compete, in order to get any orders at all.

(MC 4, 2004)

There are a lot of competence on different levels (in Firsam), but there must be a realization that the costumer is in focus. Many of the functions that we must perform (in Firsam) and the companies (in Firsam) are larger organizations, and sometimes I feel that there are too much of that spirit left in the organizations. It is obviously hard to point out and talk about. We are on the opposite end point on that scale. We are a very dynamic company, and we change our organization rapidly if there is a customer need. I have worked in a big organization, so I know the problems behind change. There are a lot of functions that need to change in order to change one aspect of the company.

(MC 3, 2004)

7.7 Analysis out of the aspect of the bridging and bonding form of social capital

One of the initial thoughts behind the Firsam project was to create a regional strategic network that worked on the basis of “from idea to the final customer in one chain” (figure 7). A respondent representing the network management group expressed this vision “I thought the general idea was great: to gather these different companies to be able to do different elements in the production process, and finally deliver a complete product or parts of a final product to customers and other companies”. This way of thinking where the companies undertake different activities that build on each other towards a final product is referred to by Ager et al (2000) as vertical collaboration. The concept of vertical collaboration involves the included companies complementing each other as opposed to working in similar fields of business. According to this line of thought the companies included in vertical collaboration project might not compete with each other, which might lead to fewer incentives to display opportunistic behavior. Instead they need to be different in their fields of business, which might instead lead to problems in communication. A respondent from the network management said “His (Arild Frånberg, Firsam project initiator) idea also consisted of the notion that by putting together a straggling mix of companies the network would be able to undertake different steps in the production”. This quote indicates that the network management was aware of that the constellation of companies in the Firsam project could be considered to be “straggling” and thereby diverse in their field of business, but that this was intended since the complementarity of the companies was more important that the homogeneity of the network.

The intent in selecting companies that were complementary instead of homogeneous was explained by a respondent representing the network management group with the proclamation: “I am still skeptical towards the practice that when you assemble networks it is always very similar companies that get included. It creates like-mindedness”. According to Jarillo (1988), an entrepreneur should choose the companies that he wishes to include in his strategic network carefully, and choose companies that can “relate to each other” and share the same values since this can create a better breeding ground for trust. It is evident that in the case of Firsam the network management group chose to value the diversity of the network over a network designed in accordance with Jarillo’s (1988) thoughts regarding heterogeneity. The extent to which this mindset affected the consequent building of trust among the companies in the Firsam strategic network is discussed later.

From the quotes presented above it is evident that the network management group understood, at least implicitly, that several of the companies in the Firsam project lacked experience in vertical cooperation. The network management group seemed to believe that this could “create like-mindedness” within the individual organizations. This seems to indicate that the network management group implicitly felt that organizational lock-ins (Nardone 2009) and over-embeddedness (Molina-Morales et al
2009) could be a problem within regional strategic networks. The introduction of the notion of vertical collaboration was therefore used by the network management group to neutralize the obstructive effects of the bonding form of social capital.

It is evident from the interviews conducted in 2004 that the vision of “from idea to the final customer in one chain” had been successfully communicated by the network management group to the involved companies. The illustration of the “wheel” (figure 7) had been presented at the initial meeting held at the end of 2004 when the companies first met. One company representative described the network constellation thus: “We have everything, from product development to logistics, and everything in between, the whole of the product life cycle.” Another respondent representing a company in the EC group connected the competence that existed in the network with the networks heterogeneity “I mean, if you look at Firsam, then you have competence in a whole lot of different areas. This is because of the mixture of different companies.” The notion of “from idea to the final customer in one chain” had also been successfully communicated to the companies within the MC group. A respondent from this group expressed a belief in the novelty of such a collaboration: “I do not think that there are that many groups like Firsam, with that kind of diversity, and the thought behind the wheel. That is the thing that made this project interesting to me.” The belief that the concept of “from idea to the final customer in one chain” is novel might signify that these companies were less used to working actively in vertical collaborations.

A representative from the network management group described the reasoning behind the implementation of vertical collaboration within the Firsam project thus: “We tried to make them change their opinion about themselves or their identity, so to speak”. The respondent continued his reasoning by adding “we are subcontractors, we manufacture, if the customer wants a 10 by 10 centimeters piece of steel with four holes in it, that is what we do”, referring to the manufacturing companies’ identity in the previous statement. The identity change that the respondent was looking for was described by: “What happens when you take a little more responsibility for the product, and you venture a little further in the product development? Will the customer change supplier then?” This quote signifies that the network management had detected an identity among the manufacturing companies that they thought was less than productive. The representative of the network management group said that one of the goals of the Firsam project was to change this identity and thereby give the network management group the position of working as an educator among the included companies. There seems to be a notion that vertical collaboration would affect the managers in the manufacturing companies. The network management group wanted to impose a culture whereby these companies would see their business offering as less passive in their relationship towards their customers. The network management group seemed to be willing to influence these companies by being active in the development of the whole product chain and not just in the part that the initial blueprint specified. Experiences of working in vertical product development through the Firsam project would enable the manufacturing companies to open their eyes to the entire production chain. The network management wanted the manufacturing companies to undertake a more collaborative stance towards their customers, thus creating resource ties and actor bonds between themselves and their customers.

The dependence-oriented culture can be described as enforcing a traditional view of business development and an obstructive force toward innovation. The passive approach described by the network management group can be easily linked to the influence of this culture. Encouraging the creation of ties to organizations outside of this social context and making the companies within Firsam less passive in their relationships with their customers might be a way in which to counteract this influence. Because weak ties enable technology brokering (Burt 1992) the creation of such ties can be described as a way in which to facilitate the creation of the bridging form of social capital.

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The idea held by the network management group that the companies primarily belonging to the MC group did not see the benefits of vertical collaboration seemed to be supported by the empirical data collected in 2004. A respondent representing a company in the MC group said “We work a lot with the product owners, but they have the responsibility since it is them that approach us. They want their production done”, thereby rejecting all responsibility for the final product, an attitude that suggests that further involvement in the development of the product is out of the question. Another respondent expressed that “It feels somewhat forced, I definitely think so. It consists of companies with somewhat different directions”. This respondent did not see a common ground for collaboration between the companies in Firsam because of the difference in their business fields, thereby neglecting the opportunities offered by vertical collaboration. Another respondent expressed a similar view: “Since there is no one that can understand the business of all companies involved (in Firsam) and therefore able to run the project, I think it is unrealistic to believe that we can work together in a network at all.” Since the differences between the companies involved in the Firsam project were believed to be so great, some respondents did not see a common ground for collaboration. A respondent expressed that “You could be able to work together on purchasing, maybe not marketing, but purchasing, not like sales but maybe marketing. That is all...” This quote signifies the belief that the areas in which these companies could find common ground for prosperous working relationships is very limited.

Some of the companies from the MC group did however express themselves so that it was made clear that the notion of vertical collaboration had been adopted. One respondent described how vertical collaboration could lead to the possibility of his company lowering its prices and the collaboration would thereby benefit both parties. He said that “Then maybe they can adapt the product to the production that they can manage, and the price would be right”. Another respondent described how involving manufacturing companies in the design of the product would enable a lower production cost: “They basically change the whole machine, and made it possible to mass produce. That made it much cheaper. That is how we must compete, in order to get any orders at all.” Still the manufacturing companies within the MC group focused on the price variable as their key selling point. Vertical collaboration was therefore seen as a means to reduce costs and thereby lower the price. There seemed to be a deficiency in making use of vertical collaboration to tie the customer to the network by means of integrated technologies. There was also a shortfall in the use of vertical collaboration as a way in which to create a flexible production process, even though a respondent from the MC group did express: “We are on the opposite end point on that scale. We are a very dynamic company, and we change our organization rapidly if there is a customer need.”

The resistance towards vertical collaboration thus seemed to be present even though it was quite varied in nature. How this impacted on the Firsam project is described later in this thesis.
8. Analyzing the network cooperation activities

The activities that constitute the arenas of collaboration, the interaction between the companies and the communication that takes place within the network are analyzed in the network cooperation part of the analytic model (Hallén et al 2009b).

8.1 The network arenas, communication and interaction

A respondent from the network management group described the different projects or arenas of collaboration which were undertaken in Firsam thus:

"Once we got these ideas for products on our table, we contacted some of the companies to ask "do you want to work on this case" and "we are going to build a network around this product, we need 4 or 5 companies to get together". After that they met rather frequently to work on these cases. I do not remember how often we arranged these project meetings, where some of the companies met. We also tried to set up breakfast meetings, but they had their hands full. It is not easy to find something that will bring all these people together."

(MG 1, 2010)

In the quote above the arena of collaboration is described as stemming from vertical collaboration on different products. This vertical collaboration was undertaken in different “cases” or projects that the companies gathered around. Besides these cases the companies in the Firsam network also gathered around different educational meetings and programs. A respondent representing the network management group described these meetings.

"We met in Kilafors and had really good seminars about lean production, we also had sales courses. We had courses in CAD and other designing and drawing material, if I remember correctly. We had several of these kinds of courses. I need to look through the reports we handed in to the EU to remember all the activities that we arranged. It did amount to a lot, when we sat down to produce these reports it was a very long list of meetings. They had also opened an adventure swimming hall in Söderhamn, and Firsam rented it for a day and invited all the representatives of the companies in Firsam."

(MG 2, 2010)

We had meetings at the different companies’ facilities where most of the companies in the project met. We had those once a month, or every second month. We also had owner meetings where representatives of the municipality and Sparbankstiftelsen visited. We all met rather frequently and talked about our agenda; we looked through our agendas and talked about what was happening and how the different projects were developing.

(MG 1, 2010)

As indicated by the previous quotes the interaction and communication between the companies consisted predominantly of meetings, both formal meetings such as educational seminars and product orientated projects and informal and social meetings such as a visit to the swimming hall and breakfast meetings.

The respondents representing the network management group described the different product related projects that constituted the areas of collaboration within the Firsam network. The respondents also described the learning process that these projects spurred in the included companies.
There were some products that we worked on. It started with ClimateWell, I think. That was an interesting product and we managed to get some companies together in some sort of constellation, and if I remember correctly we managed to deliver a joint tender. After the tender some sort of problem emerged with the enamel production. We also worked on the EcoLog project. They should move their manufacturing from Söderhamn to Russia, or something like that. No, hold on, Caterpillar had manufacturing in Russia but they wanted to move it somewhere else, I do not know where. Then we had some companies that tried to attract it to Söderhamn. We also had this satellite antenna, C2SAT; that was another project. We also had a project going with Rosenqvist Railtech, situated further up north; some companies were involved in that. We had the medicine cabinet that included everything from electronics to manufacturing, EC 6 worked on that project. EC 6 also worked together with MC 4 to design stuff for HIAB, then PBM Stressmedicin, that is a whole story in itself. There we managed to get some companies to work together and actually deliver some products. So if you look back, there are some projects. Some went all the way and some did not, for different reasons. We also worked on different new products, a horizontal chimney and other stuff.

(MG 2, 2010)

There are still ongoing collaborations between the companies. Now, lately, EC 6 worked with former EC 1/2. They worked with both EC 1/2 and EC 4 to manufacture some product they had. We worked with Rolba in Hedesunda; they make sludge and dry suction units. They were not ready to take the leap, but we were. We had a constellation of companies that could manufacture metal parts, we had MC 4 that was ready to draw up the design in 3D and we were ready to help with the modularization. They wanted to manufacture this from scratch, but we tried to tell them: “Can’t we make this process a little easier? Can’t we try to modulate the product somehow?” There will never be two cars that are exactly the same. We had metal companies, we had MC 4, we had EC 6 with electronics and we had TELE2 Systems. Some sort of collaboration emerged that we did not have that much to do with, since we opted for automated manufacturing and lean production. We held many lean production meetings where we tried to make them understand that this is the way you must go in order to stay alive. Everybody is scared of the Chinese. We said: “There is really no problem with the Baltic countries, no problem with China, it is only you guys that need to take the leap towards automated manufacturing, and then you will be able to compete with these countries”. Maybe they will not be able to compete in every way, but to a larger extent and much more efficiently than today.

(MG 1, 2010)

I do not know of any instances where the companies in Firsam have started any collaboration outside of Firsam. I know that ALIR Power came into the project in its closing stage, and that EC 6 has worked together with MC 1, EC 1/2 and EC 4. They will all be suffering when EC 4 moves. Then they cannot knock on their neighbor’s door and ask: “Can you make me 50 of these before lunch?”

(MG 1, 2010)

The companies involved in Firsam described these arenas of collaboration, and how they have helped in the development of their individual businesses.

Lean production is really good. We had a case down at the MC 5 plant were we had two products that we followed from A to Z. We did some suggestions for improvement that turned out really well. I went back to my company really excited and motivated.

(MC 5, 2010)

I can think of many instances where we worked together on tenders towards a customer, different cases. We work... We have a customer that is residing in the same building as us; they are called EC 1. We have worked together with them towards several different customers, one customer called ALIR Power for instance. There are several instances where we have worked together towards ALIR Powers customers. We also have our own customers, and we have used the help of MC 1 in one major tender. We have also been able to accept tenders from customers that only have a construction that is not finished, like samples and blue-prints. Then EC 4 was able to offer the design part in the tender, and we bought in the rest from for instance ALIR Power. The customer has bought from EC 4, we have in turn bought from ALIR Power and we have kept the responsibility towards the customer. This is a system that has worked fine, I think.

(EC 4, 2010)
There were some concrete cases; I got asked questions regarding a company that was working in the same segment of business as I am. But, I can’t say that we were involved in that many tenders. But out of the best interest for Söderhamn, maybe it is not tenders from a specific company that is the main objective. It is about attracting companies to the region that can contribute to the growth of the town. Therefore we have not only reached out and tried to attract tenders, as many others have done; we have tried to sell the whole picture and thereby trying to be a magnet in attracting business. We got the example of Climate-Well, they are still active and they have a promising product in every way. They went to Estonia, or the Baltic regions, they were also in different places in Sweden and looked at different clusters, organizations for collaboration and companies. They said that Söderhamn was the most promising alternative since we had the attitude and notion of offering an all-encompassing solution. That serves as a good example of an instance where we could not match them as a single company since we could not be a major sub-supplier to them, but we had the right attitude and we could do certain specific efforts that made them interested in placing their business here. I was included in these discussions, and I visited them a couple of times. (N 2, 2010)

At present time we get some help from MC 4, when it comes to doing some calculating. If you look at these plates… They have looked the same for years and years. Everybody is doing them the same way. They have always been this thick, had a specific girth. They just look like that… and I, as an economist, might ask the question; do they need to be that thick? One of those gear changers weighs 55 kilos… when we got the order. It is roughly one square meter in diameter. What if we could make a gear changer that weighs less than 30 kilos instead? That would enable us to send it as a lightweight goods package all over Europe for only 250 Swedish crowns. If the weight is over 30 kilo then it will costs between 750 to 1 000 Swedish crowns to send it within Europe. How can we reduce the weight? We asked MC 4; how much will these plates expand under a certain amount of pressure? What if we reduce the thickness to this much? If we change the plate to that thickness the gear changer will only weigh 28 kilo. Including packaging it will keep us under 30 kilos. They calculated, and it turned out that the plate could handle the pressure, which enabled us to make a gear changer that weight under 28 kilos. (N 2, 2010)

8.2 Analysis out of the aspect of the bridging and bonding form of social capital

The different arenas of contact between companies within a network are analyzed in the model Hallén et al (2009) presented regarding an analysis of a strategic network. In the case of Firsam, the contacts between the companies included in the project consisted of meetings where the representatives of the companies met. Some of these meetings were organized around different educational programs where lecturers held courses. A respondent representing the network management group described it like this: “We met in Kilafors and had really good seminars about lean production, we also had sales courses. We had courses in CAD and other designing and drawing material, if I remember correctly. We had several of these kinds of courses.” The more formal meetings where all the companies met are listed in the graph in previous subsection (figure 9) These meetings included the courses, visionary meetings and more social arrangements such as a visit to a swimming hall in Söderhamn, and travels to visit companies of interest in other regions. A representative of the network management group described it: “They had also opened an adventure swimming hall in Söderhamn, and Firsam rented it for a day and invited all the representatives of the companies in Firsam.” The respondent representing the management group also commented: “We also tried to set up breakfast meetings, but they had their hands full. It is not easy to find something that will bring all these people together.”

There were also some less formal meetings arranged where a subset of companies met to discuss different cases on which to work jointly. Some of these meetings were arranged by the network management group. A representative of the management group described this: “Once we got these ideas for products on our table, we contacted some of the companies to ask ‘do you want to work on this case’, and ‘we are going to build a network around this product, we need 4 or 5 companies to get together’. Since these meetings were less formal and sometimes arranged by the companies themselves it is hard to get a sense of how often they took place.

By connecting the different companies within Firsam to work on different business cases the network management group acted almost like a technology broker in combining actors within a network
in novel network structures. Burt (1992) claims that a central actor within a network can accrue power benefits by connecting previously unconnected actors and thereby control the information flow between these actors. In the case of Firsam the network management group controlled this information flow by arranging meetings and pairing the companies together in novel constellations. By making such constellations the previously existing network structure holding the network together in cliques of homophily was eroded, and connections to other social contexts were established. The creation of the bridging form of social capital was therefore facilitated within the network, with the network management group performing the role of technology broker.

A representative from the network management group described one of these cases that some of the companies in the network worked on: “There were some products that we worked on, it started with ClimateWell, I think. That was an interesting product and we managed to get some companies together in some sort of constellation, and if I remember correctly we managed to deliver a joint tender.” The representative of the network management group gave an example of a successful collaboration resulting in the delivery of a joint tender. A representative of one of the involved companies in the ClimateWell tender described the process: “We have the example of ClimateWell, they are still active and they have a promising product in every way. They went to Estonia, or the Baltic regions, they were also in different places in Sweden and looked at different clusters, organizations for collaboration and companies. They said that Söderhamn was the most promising alternative since we had the attitude and notion of offering an all in compassing solution.” The case of ClimateWell is therefore described as an instance where the notion of “from idea to the final customer in one chain” was realized in practice. The combined force of the companies in Firsam became a selling point for the region as a whole. The respondent representing the involved company also said: “That serves as a good example of an instance where we could not match them as a single company since we could not be a major sub-supplier to them, but we had the right attitude and we could do certain specific efforts that made them interested in placing their business here”. He therefore indicated that it was the whole chain of companies in Firsam that attracted the tender, not the efforts of a single company. Another respondent claimed: “I do not think that there exist that many groups like Firsam, with that kind of diversity, and the thought behind the wheel. That is the thing that made this project interesting to me, and also the thing that ClimateWell had realized”. Again highlighting the case of ClimateWell as an example of “from idea to the final customer in one chain” put into practice.

A representative from the network management claimed that “There are still ongoing collaborations between the companies. Now, lately, EC 6 worked with former EC 1. They worked with both EC 1/2 and EC 4 to manufacture some product they had.” The respondent thereby indicates that some of the joint collaborations on the different cases led to lasting working relationships. A representative of a company involved in this relationship confirms this and states “We have worked together with them (EC 1/2) towards several different customers, one customer called ALIR Power for instance. There are several instances where we have worked together towards ALIR Powers customers. We also have our own customers, and we have used the help of MC 1 in one major tender.” Another respondent representing a company within the Firsam project described how a collaboration project including improvements on a product helped in his company’s product development: “We asked MC 4: how much will these plates expand under a certain amount of pressure? What if we reduce the thickness like this? If we change the plate to that thickness the gear changer will only weigh 28 kilos.”

The “wheel” (figure 7) was used as an illustration of the notion behind vertical collaboration among the companies within the Firsam project. When the notion behind this “wheel” was put into practice it demanded that companies representing different phases in the product life cycle collaborate at an early stage of the project. These companies are very different with respect to their competence and company cultures (in the Firsam project this was illustrated by the coalescing of the two groups EC and MC). The projects undertaken within Firsam therefore show instances where different social contexts are “bridged” to create something novel. The added value behind offering all-encompassing solutions to customers by bringing previously unconnected actors together is described as being communicated among the participating actors within the Firsam project. The value of facilitating the bridging form of social capital is thereby made directly visible in the cases described above.
9. Analyzing the cooperative attitude in the network

A cooperative attitude in the network is a prerequisite for a successful network venture. Hallén et al. (2009) divide this aspect of networking into two different factors, the commitment made among the companies to the network endeavor and the trust generated among the companies. These are dynamic and interaction related constructs, which indicate that they change over time both as a result of the success of the network, and as a prerequisite for this success (Hallén et al 2009b).

9.1 Network commitment

Morgan and Hunt (1994:23) describe commitment as “an exchange partner believing that an ongoing relationship with another is so important as to warrant maximum efforts at maintaining it; i.e. the committed party believes the relationship is worth working on to ensure that it endures indefinitely”. The commitment aspect of the network attitude in this thesis refers to the investments the involved companies and the network management make in the form of resources such as time and money. It is important that the investments in the network appear fair with respect to the individual companies’ size and resources (Morgan and Hunt 1994), but the commitment must also show in terms of the companies’ adaptation to the network concept (Lantz et al 1998). This adaptation includes making a commitment to change their company routines to meet the demands of the other companies in the network. The empirical data referring to this definition of commitment within the Firsam case mainly focuses on the development of the marketing aspect of the Firsam project. The content of this section is therefore inductively steered towards the discussion of commitment in the marketing aspect of Firsam.

There was a feeling of discontent towards the network management group’s involvement in the process of the different cases, or projects, that the Firsam network worked on. Almost all the respondents seemed to share this discontent and expressed it in the interviews.

Yes, I think they should have been more active in the marketing aspect of matters in the network management. I think that the marketing aspect, to engage the marketing departments and marketing people in the companies and get them working with network management should have been more controlled. There were no set goals. It was left to some kind of random scenario. They tripped over something, a business opportunity. Then again that perspective might not be totally fair, since they did some good things as well.

(EC 4, 2010)

In hindsight it is easy to be critical, but the work was not always that structured. They quickly let go of the responsibility to the company that was supposed to front the project towards the customer, and became passive. They should have been more of project leaders, been more “hands on” in order to get everything in place. I think we all had a lot to do, things tend to “come to nothing” if left just laying around for too long. In this type of work, with customers, you get a limited period of time in which to reply to tenders. You must be alert, take the time to visit your customers. It is not just to send out a tender and then sit down for a coffee break. That’s when the real job starts. Then you might need a “kick in the butt” and someone that puts a bit of pressure on you to drive these things forward. Sometimes you might not have the energy to do this yourself. That is why there have not been any deals, because no one had what it takes to take it all the way, for different reasons. It might also have been the price, or something else that was not right for the customer. If the fault lies in the way in which we are working, then we must come to that realization in order to make that right, in that project or in the next one.

(EC 4, 2010)
What I miss is the incorporation of some business experience in the project. That would enable us to aim a little higher than we did. They could have been a little clearer about what segment, or in which area they were working. “What should we bring to the table?” “What are we good at?” I mean us in Firsam, the whole cluster. “Why do we work together, what are our strong features, our weaknesses, what type of customers should we target, what segments should we try to reach?” I missed these types of questions since it became more of a “shoot at everything that moves” scenario, and a lot of focus on bringing job opportunities to Söderhamn. Unfortunately I saw, and was involved in many projects that we were forced to pay our way out of since they were ventured into a little bit naively.

(EC 8, 2010)

We were involved in calculating and developing tenders, and we fronted towards the customer sometimes. The problem, as I see it, was that no one could front towards the customer in a natural way since no one was willing to talk about anybody but themselves. That was the core of the problem every time. No one was willing to sell the whole of the business that is available in Söderhamn.

(MC 3, 2010)

I knew too little about all the other companies, really. It takes time to develop this kind of knowledge, even for us that meet these companies regularly. For instance, we never practiced selling each other. Sure, we would also need to build closer relationships between the companies in order to go out and sell each other jointly. But, even if we did that, “what are we going to sell?”

(MC 2, 2010)

The network management group in Firsam seemed to be aware of this criticism.

Sure, we could have been more active. But it is easy to say that we should have been more active and then you do not have any responsibility in answering the question “what would you have done”. If you ask yourself the question “what would you have done” the answers do not come easily. The answers do not exist, but sure, we could have pushed them a little harder and been more active in building relationships, both between us and the companies, and between the companies themselves, to get everybody involved. We were also in the midst of an economic boom and everybody had their schedules full. The companies were all doing really well. They found it hard to find time to get involved, and they did not need the network that much. They had their order books full already. They were doing three shifts a day, and everything was accelerating at 150 kilometers per hour for the manufacturing companies. You have to account for this as well when you say that we should have been more proactive.

(MG 1, 2010)

Another criticism that seemed to be present in most of the companies’ interviews concerned the perceived notion of shortcomings in the marketing and business development aspect of the network project of Firsam. The network management group provided its account of why this notion was so prevalent among the participating companies in the Firsam network.
Yes, it turned out to be more of a product oriented project than a project that focused on making outward connections. We got these different cases and looked at them and tried to get the companies to go through these cases together. But they also had their order books full already. Some might say that it should have been more market oriented, but when you start to dig deeper in this matter to do something about it, they did not want to. They had their customers already, they were busy. “We have been bending this piece of steel for this customer for 500 years”, and they never even contemplated that this customer might disappear. I do not know how critical I can be, but when they claimed that we were not market oriented enough it was probably because it went over their heads, that specific demand. They probably think that it was a cool demand to make, because when push comes to shove they were not ready for it. They did not need to either, they were busy. Then there was probably this joint… well, they were kind of scared of it. They had never marketed themselves, and probably did not know how to either. When we tried to get them to come down to the sub contractor trade fair (Underleverantörsmässan) in Jönköping, arranged by Elmia, it was really difficult. It was “what are we supposed to do there?” “Well, maybe you could get some input from someone else”, “maybe you could create some new connections”. When we finally went the people that decided to join, which was too few, thought it was really fantastic. We saw the Swedish championship in CNC welding and everybody was really impressed. They said “why don’t we have someone from Söderhamn competing?”

(MG 1, 2010)

I remember the critique that we got, and how they see it now. There were some angry feelings regarding the joint marketing efforts. But on the other hand, they were not willing to do that much themselves. They had their hands full and they took care of their marketing by themselves. They were scared of their own customers and did not want to join in. But that was probably also because we did not do enough of relationship building from the outset, both between us and the companies, and between the companies themselves. We should have worked with that aspect harder.

(MG 2, 2010)

The cases all came from different sources. Companies called us up and wanted us to manufacture different products. Companies called Arild, or Arild met them somehow, most of the time it was all a coincidence. This business with C2SAT and ClimateWell, they just happened somehow. But as a side remark, they just happened because you have a network around yourself and you have a lot of relationships to people around you, therefore these things end up on your table. I think that is where the real coincidence lies. Some people were more interested in doing things than others.

(MG 1, 2010)

The companies interviewed gave similar explanations for this lack of focus on marketing and business development aspects. The representatives of the companies described this lack of focus:

I think that the focus has to be on doing business all of the time. They were working a lot on establishing new companies in the region, because there were real opportunities for that. If that amounted to something I obviously support that, but I took a lot of resources away from polishing the existing companies’ joint business model. These sales campaigns, like new market penetration, business meetings and trade fairs, were forgotten. Maybe they lost track of the real business approach in the project.

(MC 4, 2010)

The lack of focus on marketing ventures was also described as a symptom of the merger of diverse companies in the network project.

4 Coordinator of business trade fairs, company financed by the municipality of Jönköping.
You must have clear targets with your marketing. To market 15 companies becomes “neither here nor there”. What kind of trade fairs are you supposed to visit if you are representing 15 different companies? They joined some trade fairs in Stockholm and exhibited themselves, partly via their collaboration with the municipalities. That did not amount to much, but “if you are not seen you do not exist”. I think that they could have marketed themselves a little more. That is of course a financial matter as well, to market yourself is costly. This becomes evident when you look at the companies in Söderhamn today. I am currently out travelling all over Sweden, I work at a lot at trade fairs, and I get large districts covered, like from Stockholm to Värmland and the whole of Norrland. Beside my regular business I can talk about this matter sometimes. “You know these companies” they say to me, “do you know of a good supplier that can do some circuits?” Then I have referred them to EC 1 in Söderhamn, and no one knows who they are. That is usually the case with companies around these parts; they have usually not been marketing themselves that much. Sure it is costly, but the sales part of business is very important. You need to be present at trade fairs, to take up contacts with customers and to network, and then you will get the business. That is the result of the lack of marketing endeavors in this project. There are jobs available in Sweden today; they just need to be found.

(EC 7, 2010)

I think it is hard to go out and market something that is not specific, like a merger of companies; who is responsible? I think that all these kinds of projects that I have heard of have failed. I do not believe in this at all.

(MC 5, 2010)

The problem is that this person, who is representing the whole group, might not have the competence that the different companies have individually. It is very important to know what you are talking about when you meet different customers, about the product you are selling. It is obviously both an up- and a downside to hiring a third person to market; the upside is obviously that he would be neutral and working for everybody. The question is, if this would give an opportunity in raising the competence level of the included companies. Maybe this would call for internal actions where the people in the companies with the right competence would be brought together. If you are talking to a customer and you get a question regarding the product, and you cannot give an answer, the whole thing falls to pieces. Therefore I think that you would get the biggest benefits from having someone from the inside to market the group. To have someone that can really work for the benefit of the entire group. In the case of Firsam I think that Arild Frånberg would be able to do this. He knows everything about this town and has been working in manufacturing for many years. He would be able to travel around and sell the concept. He is the kind of person that you sometimes have to tell to “be quiet!” since you give him a finger he takes the whole arm.

(EC 7, 2010)

However the production of business intelligence was an aspect of marketing that the respondents would have liked to see more of.

Manufacturing technique and business intelligence; those are two dilemmas for a manufacturing company. “How can you approach this in a different manner?” “What types of machines will be taking over the business?” “What types of rules and legislations are coming up in my field of business?” “What types of opportunities will arise from these changes?”

(MC 1, 2010)

I think that this sort of project can offer business intelligence, but then it is up to the individual companies to follow up on it. You cannot expect it to be that easy, as having someone else to travel around and introduce you to customers. I can imagine that a lot of people in this project claim that the marketing aspect of the project was not successful. I do not think that is the way in which you can make money, you must market yourself. But you can probably get some help with business intelligence, help in defining what type of customers you may want to approach. Otherwise it would be as easy as putting an ad in Dagens Industri, “the Firsam cluster”, and then hoping that someone will contact you.

(N 2, 2010)

The lack of focus on marketing and business development in the project was described as stemming from the fact that all the involved companies had know-how in production and manufacturing. These companies would consequently not be focused on business related issues.
As said before a larger scope of competence should have been represented in the network. You must have business development and marketing competence present. If it is going to be solely manufacturing companies, without this competence, I think it is going to be really difficult. (EC 2, 2010)

It is fair to say that all of the companies included in Firsam were manufacturing companies in one way or another. It would have been beneficial for the project if they would include companies that worked with business development, because I think that this competence is probably not so strong in most of the existing companies in the project. That competence was lacking, to be frank. (EC 1, 2010)

There was a lot of manufacturing companies and I am talking about business development. Of course it was a weakness for the cluster that this knowledge was not there. If you ask me if it would have saved the project, I do not think so, but things like this become so obvious in hindsight. (EC 2, 2010)

We had some thoughts regarding how to do internal audits, how to handle the production chain, with inventories of goods and so forth. We had some internal projects going, where we tried to rationalize our chain of production. But we might as well establish the fact that the companies in this town are very good at dealing with their products from the time the goods are inside of their doors, until they are ready for delivery. However, they cannot handle the stages before the goods get delivered, and after the goods are produced and ready for shipping. They do not have the competence for this. They are too small. (N 1, 2010)

The reason behind the lack of focus on marketing and business development in the project was described as stemming from the lack of this kind of knowledge in the region as a whole. All the companies in Söderhamn shared a similar history which had shaped their strategy to steer away the focus from marketing and business development.

In Söderhamn there is a lot of manufacturing companies. Lot of big companies has focused on manufacturing while the marketing offices have been located in other places; therefore the competence is not present in the region. There is no such history in this place. If you look at the Ericsson factory, which then became the Emerson factory, it has been the most dominant manufacturing factory we ever had in this region. But this factory has never had any contact with the customers, except when they visited the plant for some reason. Ericsson had its own marketing department that sold the forecasts to all the factories, including this factory. We, who have worked at Ericsson a long time, know that these forecasts never were accurate. They usually spanned from wrong to really wrong, which caused a lot of problems. This is the case in most places. If you look at EC 4, they got offices at different locations such as Järvsö, Hudiksvall and Söderhamn. They have built their company by “hälsinge measurements”, so to speak. EC 4 is a strong group of companies that works a lot with business development towards larger customers; it has developed this kind of operation. There are few companies with these connections in Söderhamn. In my company we have worked directly towards our customers, but there is a lot in the history of this place (Söderhamn) that makes this difficult. You do not have this know-how in Söderhamn, and this competence is lacking since the prerequisites were not present. It is one thing to make products in a certain way, but they must also be sold. (EC 2, 2010)

If they had started a project like Firsam in, let’s say Västerås, I think the assembly of companies would have been very different. I am thinking on the lines of competence and experience, and so forth. Then I think the prerequisites would have been quite different. From the outset the project had a lot of focus on actors that have experience in manufacturing. If there had been a different assembly of staff in the network management group they might have seen the need to bring in someone from outside Söderhamn, to work on the business development side of the project. (EC 1, 2010)

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5 Province in Sweden, including the region of Gävleborg which Söderhamn is a part of.
6 City of 110 000 inhabitants and the county town of the province Västmanland in Sweden.
The assembly of companies does not have to be according to their size, but a larger span of competence must be present. Then I also think that some fundamental parts must be there, like business development and marketing competence. This needs to be present in this kind of projects. If you only got manufacturing companies without that competence, it is going to be really hard to get something done.
(EC 2, 2010)

We are functioning as some sort of “gateway” into Söderhamn to our customers. We attract a lot of production to the area. By recommending for instance MC 2 and the other companies we are trying to influence our customers to move more of their production here. But we get almost nothing in return from the other companies; they never refer anyone to us. I do not know if it is because they do not want to, or because they do not know-how to. I do not think that they are used to bringing something like that up, or even discussing it at all.
(MC 4, 2010)

9.2 Analysis out of the aspect of the bridging and bonding form of social capital

The marketing of the joint tenders and products developed in the Firsam project was one of the major disappointments expressed by the companies involved in the project. A respondent expressed: “I think they should have been more active in the marketing aspect of things in the network management”. The sentiment among the companies seemed to be that, as another respondent described it “They quickly let go of the responsibility to the company that was supposed to front the project towards the customer, and became passive”. This quote indicates that some of the companies within the project felt that the network management group should have acted more like “project leaders, been more ‘hands on’” as one of the respondents expressed it. This seemed to create a commonly held feeling of discontent among the involved companies towards the management group’s commitment to the Firsam project.

The unwillingness to market and act upon the joint business opportunities that arose from the Firsam project also existed among the companies themselves. A respondent expressed: “No one was willing to talk about anybody but themselves”, thereby highlighting that the interest of the companies was not in making joint market ventures, but only in marketing their own companies. A lot of the respondents explained this unwillingness with the notion that it was hard to sell the concept of Firsam as a whole since it consisted of such disparate companies. A respondent expressed that “It takes time to develop this kind of knowledge, even for us that meet these companies regularly. For instance, we never practiced selling each other (…) But, even if we did that ‘what are we going to sell?’”. The respondents expressed that the knowledge of each others’ business offerings within the Firsam project was an overlooked area. The commitment to learn about each other was lacking, which resulted in an absence of joint selling efforts undertaken by both the network management and the companies themselves.

A representative of the network management expressed that they were aware of this criticism and stated: “Sure, we could have been more proactive. But it is easy to say that we should have been more proactive, then you do not have any responsibility in answering the question ‘what should you have done’”, Indicating that the criticism was unfairly directed towards the network management. The representative of the network management claimed that the interest of the involved companies did not allow any further active involvement by the network management since the time that these companies could spare was quite limited. The representative said that: “They found it hard to find time to get involved, and they did not need the network that much. They had their order books full already”.

In connecting the different companies in Firsam together to work on different business cases the network management group acted almost like a technology broker in combining actors within a network in novel network structures. Burt (1992) claims that there are power benefits that accrue to entrepreneurs who connect disconnected groups, because the broker has a say in whose interests are being served by the bridge between them. Being the technology broker enables them to negotiate terms that influence the future power structure within the network. These power benefits also benefit the broader aggregate since it makes new information available, and helps to get things done since a leadership role rests on the information broker (Adler Kwon 2002). The information broker consequently helps to spread information between different groups and specifies what information is relevant to
whom and under which circumstances (Hansen 1999). It seems that the Firsam network management group did combine companies in novel structures but it did not further specify what information the different companies held that could benefit the broader aggregate, nor did they emerge as leaders of the collaboration. When an actor in a network becomes a technology broker, they use the power benefit that is given them to control the new business venture that the connections generate. This constitutes the entrepreneurial activity that the whole structural theory is based on (Burt 1992). The technology broker takes the leadership role and sorts information and resources towards a common goal. As the network management group in the Firsam project did not have a direct commercial interest in the cases that the project would initiate, the role of technology broker was undertaken by an actor that did not have an incentive to be the project leader. This seemed to create role confusion within the project that hampered the development of the cases. The companies expected the network management group to be the project leader since it had undertaken the role of being the technology broker, but the management group expected the companies to take this role because they had the economic incentive to do so. It seems that the design of the regional strategic network of Firsam became a case of technology brokering without a clearly defined technology broker. Role confusion followed.

The joint business ventures that were brought in from the network management group to be worked on jointly among the companies within Firsam were believed to be the result of a “random scenario” marketing scheme undertaken by the network management, or a “shooting at everything that moves” scenario. Representatives of the network management understood that the business ventures that they brought in might seem to be the result of a “random scenario”, but claimed that the acquisition of these business ventures was the result of the network management’s willingness to use its network to attract business ventures. The accusation that the acquisition of business ventures was a “random scenario” is therefore described as a result of the failure of these companies to understand the concept of networking as a way in which to work actively with marketing. The perceived failure of the network management to market the Firsam network jointly is therefore described as stemming from the limited view of the companies of what constitutes marketing. The network management representative claimed that the Firsam network was not marketed in the traditional way, such as through advertising and personal selling. Instead they used their extended network to attract business ventures and encouraged the companies to market themselves by networking ventures, for example by visiting trade fairs.

The less extensive experience of working strategically with networks that was associated with the MC group seems to be connected to the socio-economic climate prevalent in Söderhamn. The dependence-oriented culture is traditional in its approach and therefore not encouraging for working strategically with networks in order to penetrate markets. This culture is consistent with the few and strong ties that constitute the local network structure (Hammar and Svensson 2000), a notion associated with an abundance of the bonding form of social capital that locks the actors into existing network structures, making strategic networking impossible. The description of strategic networking in terms of “random scenario” and “shooting at everything that moves” is a telling sign of this traditional view among some of the companies involved in Firsam. This indicates a lack of understanding of strategic networking.

The perceived lack of focus on marketing and business development could also be attributed to the history of the Söderhamn region. The region’s history is dominated by companies with a clear focus on product development and manufacturing, and this history also means that today’s companies also focus on these aspects of business. Therefore the business development and marketing know-how of companies included in the Firsam project were lacking. The network management group was described as affected by this history, though they also seemed to be lacking in marketing and business development know-how.

The region of Söderhamn is described as an old industrial community. The history of this type of community affects the present socio-economic climate by imposing a dependence-oriented culture. A region that has been dominated by heavy industry and manual labor and a culture that seems to preserve traditional values has cemented the regional industry in the manufacturing and design of tangible goods sector (figure 5). Market development and sales know-how have not traditionally been encouraged in the region. This appears to have influenced even the Firsam project, which seemed to focus on product development in its operations. It appears that the dependence-oriented culture also affected the
network management group in its project management, since its members came from the same socio-economic climate in which it operated.

9.3 Trust within the network

A high level of trust must be generated between the companies within the network to allow the creation of prosperous collaboration. The companies must also create a trusting relationship towards the network management group in order for this group to be able to influence the design of the network. Trust entails putting yourself in the hands of others and having faith in their knowledge and competence to fulfill your needs (Young and Wilkinson 1989). Morgan and Hunt define the concept of trust as

> Trust are “key” because they encourage marketers to (1) work at preserving relationship investments by cooperating with exchange partners, (2) resist attractive short-term alternatives in favor of the expected long-term benefits of staying with existing partners, and (3) view potentially high-risk actions as being prudent because of the belief that their partners will not act opportunistically.

(Morgan and Hunt 1994:22)

This definition resembles Dhanaraj and Parkhe’s (2006) different aspects on forming trust within a functioning innovation network. I will therefore use the three aspects - managing knowledge mobility, managing innovation appropriability and managing network stability - to present the empirically demonstrated element of trust within the Firsam project.

According to Dhanaraj and Parkhe (2006) “loosely coupled” networks or coalitions are coalitions where there is no hierarchical control or formalized leadership. The collaboration is therefore solely dependent on the element of trust in order to remain fruitful. Dhanaraj and Parkhe (2006) put the hub firm in a position which enables it to orchestrate a network in order to create joint innovations. This orchestration process enables the creation of trust and is divided into three activities that must be managed by the hub, or the network management group in the case of Firsam - managing knowledge mobility, managing innovation appropriability and managing network stability. The subsection on trust in the network cooperation attitude section is arranged according to these activities.

According to Dhanaraj and Parkhe (2006) the creation of a functioning innovation network must be built upon three variables of knowledge transfers. The successful transfer of knowledge leads to a cohesive network that can generate an element of trust among the involved companies. I therefore believe that successful handling of these variables by the network management group firm leads to increased trust, thereby enabling the foundation of a successful strategic network. Besides working with every single variable to orchestrate the network, Dhanaraj and Parkhe (2006) claim that a hub firm must also be aware of how these variables interact. Success in one variable creates synergistic effects as each variable affects the other variables. The innovation appropriability and the network mobility are linked. If the value that is created within the network is believed to be shared equally, the value that the other members bring to the table will be made clear to all the companies involved in the network. The innovation appropriability also has an impact on the stability of the network since a network that shares the value that is created in an equal manner offers an incentive for the involved companies to remain in the network. However, Dhanaraj and Parkhe claim that this synergistic effect is also reversible, since a stable network reduces the involved parties’ willingness to act in a shortsighted and opportunistic manner. Network stability therefore affects network appropriability.

9.3.1 Managing knowledge mobility

In order to build an element of trust in a network, the practical usefulness of the knowledge shared in the network must be made clear to all members of the network. When the benefits of acquiring the other members’ know-how become apparent, the benefits of working within the network also become clear. This will favor companies that stay within the network and share their knowledge; trust will
therefore be generated through making knowledge mobile within the network (Dhanaraj and Parkhe 2006).

A respondent from the network management group described the intention of making the individual knowledge of the companies within the network known to the other included companies. The knowledge of what the different companies bring to the table will make them see the benefits in working with them, thereby creating trust.

First and foremost, let these companies get to know each other and not be satisfied with them telling each other what kind of business they are in. This relationships between these companies must be based on a feeling of trust if they are going to work together like this, to be able to work on a product together and deliver it to someone else. This trust must be built on them seeing what the others can bring to the table, the benefits of working together with them.

(MG 1, 2010)

The notion that it is important to make clear what the other companies bring to the table in the form of know-how is supported by the respondents. In order to be able to act jointly in projects with customers outside of the network, access to the know-how of other network members must be encouraged.

I do not think that it is a good idea to choose not to join these types of networks, we want to be included. I can see some real benefits from this kind of collaboration. The collaboration that we got with MC 1 has been going for a while now and we intend to keep that going. That is the way it should work, then you become more of a cohesive unit. You know what the others are capable of, what they stand for, then there is a chance in acting jointly, towards, well… a larger customer, a larger company, or someone outside the project.

(EC 2, 2010)

According to the respondents, awareness of the know-how that can be shared in the network, and how it can be incorporated into their own organization, will create a more open relationship among the companies.

I think education is the prerequisite; you must work in the middle of the network, the hub, partly to coordinate and to make sure that the resources are there, but also to keep in contact with all the companies… to keep the discussion going. Also some education is important: “How are you supposed to work in networks? What can we learn from each other?” There is a lot to this, a lot to do. I hope that this project will eventually result in some kind of new Gnosjö spirit. But I guess it would be some kind of Firsam spirit, or something. We also have the Z-group up in Jämtland to compare ourselves to.

(EC 2, 2010)

The respondents also highlight that the real importance of the shared know-how will not become evident until it is put to practical use.

Sure, we must develop the network, to educate, to use the resources available to educate and develop the network, in order to raise the lowest level of competence to an acceptable level. We must create educational programs for the staff, and so on. But, the most important thing, that is to set a clear focus on something real, a real case, to work on together. Then we can get to know each other for real, when we have something real to gather around.

(MC 3, 2010)

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7 A regional strategic network within the manufacturing sector.
8 Province in the north of Sweden.
I do not know… I think… the majority probably feel, like me, that these kinds of organizations tend to become to democratic, but… democracy and profit do not merge well. In order to run this sort of thing efficiently, you would need to set up different criteria for joining, and clear out those who do not add to the whole. Those who do not add anything to the mix are not allowed to stay in the organization. A lot more of management control, much more business-like. Now it is a lot of… just talking. I ask myself “would we have done this without Verkstadscentrum, would we have some sort of collaboration anyway?” It surely speeded up the process, I think, the fact that we got to know each other. But, it becomes too much of a club for just talking, too democratic. You easily lose your focus and that benefits no one. The things that we will learn from each other must be put to practical use.

(MC 1, 2010)

The latter quote also highlights the notion that the companies that do not add any know-how to the network design should not remain in the network as this may cause the regional strategic network to lose its direction as an organization. An organization where the practical use of the shared know-how is unclear will lose the trust of its involved actors as a result of its inability to maintain its focus.

The key word is trust! When we got down on the level of making a tender together, it was just blue-prints. Still it almost became like sub-optimization. No human being is able to understand the whole picture, so how are you going to be able to divide the product into different components and then divide them between companies with the right competence. It does not always work.

(MC 3, 2010)

The trust in the Firsam organization also becomes “right, am I going to try to calculate according to these two components and from that come to an understanding of the potential of the whole project” No, a lot of things were missing in order to get that working.

(MC 2, 2010)

9.3.2 Analysis out of the aspect of the bridging and bonding form of social capital

The importance of creating network mobility seemed to be understood at least implicitly by a representative of the network management group. The respondent from the management group expressed that “this trust must be built on them seeing what the others can bring to the table, the benefits of working together with them”, thereby connecting the involved companies’ ability to understand the value of their colleagues in the Firsam network to their ability to trust them. The respondent also stated that in order for this trust to be generated the network management group needed to “first and foremost let these companies get to know each other and not be satisfied with them telling each other what kind of business they are in”. The respondent thereby indicated that the network management must work actively to get the involved companies to communicate what they could bring to the table within the network. As this response was an answer to the question “in hindsight, what would you have done differently today?” asked in 2010, I conclude that the realization that deeper knowledge about each other within a network is crucial to the network’s survival was made as a result of the failure to invoke such knowledge in the Firsam project. The respondent representing the network management group was therefore implicitly highlighting the creation of network mobility as one of the less successful undertakings of the network management group in the Firsam project.

The respondents representing the companies also showed some appreciation for the notion that network mobility is crucial for the creation of trust. One of the respondents said: “That is the way it should work, then you become more of a unit. You know what the others are capable of, what they stand for, then there is a chance in acting jointly, towards, well… a larger customer”. Another respondent representing one of the companies expressed a similar view but mentioned the network management group as the party responsible for orchestrating the network mobility: “I think education is the prerequisite; you must work in the middle of the network, the hub (…) to keep in contact with all the companies… to keep the discussion going. (…)” “How are you supposed to work in networks? What can we learn from each other?”, Many of the respondents representing the companies in the Firsam network seemed to share the notion that the companies would get to know each other by working to-
gather on actual business projects. The respondents therefore highlighted network mobility as something that would grow naturally over time. A respondent claimed that “the most important thing, that is to set a clear focus on that we should have something real going, a real case, to work on together. Then we can get to know each other for real, when we have something real to gather around.” Another respondent expressed a similar view: “The things that we will learn from each other must be put to practical use.” In addition, some respondents expressed that the companies that do not add anything to the joint know-how of the Firsam project should not be allowed to stay in the network. Exclusion of the so called free riders and thereby securing network mobility seems to be their favored solution: “Those who do not add anything to the mix are not allowed to stay in the organization; a lot more of management control, much more business-like.”

The fact that the respondents representing the companies believed that the network management group should take on a large part of the responsibility for creating an information flow within the project seems to indicate that they wanted the management group to take on the role as technology broker. They indicated that the network management group should mediate between the companies, be project leaders in business ventures, and exclude those that did not contribute to the collaboration. They thereby implicitly claimed that the network management group should build and restructure the network ties that constitute the Firsam project in a manner associated with a technology broker (Burt 1992). It is very doubtful whether such a responsibility could be put on the management group. If the network grew more organically and eventually resulted in lasting collaboration even after the end of the Firsam project, the companies themselves must be active in forming new network ties themselves. There is a risk that a regional strategic network would turn into technology brokering without a broker.

When asked to evaluate the element of trust between the different companies in the network, most respondents expressed that there was a lack of trust between the companies. A respondent claimed that “the key word is trust! No human being is able to understand the whole picture, so how are you going to be able to divide the product into different components and then distribute them to the company with the right competence.” In this quote the respondent seems to claim that network mobility was not reached due to the diversity of the involved companies. If the companies were not able to understand the business offerings of the other companies, it would be hard for them to see what the other companies might be able to add to the collaboration. The aforementioned culture clash between the involved companies thereby seemed to affect network mobility and the building of trust among the companies therefore suffered. Another respondent expressed a similar view and claimed that “the trust in the Firsam organization also becomes right, am I going to try to calculate according to these two components and from that come to an understanding of the potential of the whole project.” The respondent thereby questioned if it is at all possible for a single company to understand the whole production process of a quite intricate product development process and moreover to understand the business opportunity that might arise for the other companies within the Firsam network.

A noted negative effect of the bridging form of social capital is that the information that flows within a network structure might only benefit the individual technology broker, and not be of any importance for the broader aggregate (Gabbay and Zuckerman 1998). As previously mentioned, the Firsam project seemed to lack a technology broker, but the shared information also seemed to face problems of relevance to the broader aggregate. A few connections bridged previously unconnected parts of the Firsam network, and the information shared within the network seemed to make little sense to many of the participants in the network.

In order to facilitate vertical collaboration the network management group chose to include a somewhat motley crew of companies to participate in the formation of the Firsam project. The network that included some of the companies prior to the start of the project consisted of two groups formed by mutual homophily. The intention to join these separate groups together by creating bridging ties between their different social contexts seems somewhat troublesome, especially since one of the groups already seemed to have an abundance of the bonding form of social capital. Understanding of different business ideas and know-how seemed to be hindered by the homophily that split the two groups into opposing coalitions.

A representative of the network management group expressed that with the benefit of hindsight regarding the management of the Firsam project he would have let the companies share more informa-
tion about each other. In other words, the details of what the different companies might have been able to bring to the table was not made clear from the outset, according to the representative of the network management. Dhanaraj and Parkhe (2006) state that combining relevant technologies in novel ways requires the “ability to identify, assimilate, and exploit knowledge from the environment” or absorptive capacity at the network level. If network mobility is not supported it is impossible for the members of a network to identify and thereby exploit the knowledge that might be shared within the network. The prerequisites for innovation cannot therefore be attained if network mobility is low, which affects trust in a negative way. The diversity of the included companies is described as a barrier to this development since the knowledge to understand each others’ fields of business declines if the companies do not share the same frame of reference. Hargadon and Sutton (1997) present this problem in their definition of what they call technology brokering. They claim that “ideas from one group might solve the problems of another, but only if connections between existing solutions and problems can be made across the boundaries between them”. The diversity and homophily of companies included in the Firsam project might have made these “boundaries” too high. Dhanaraj and Parkhe (2006) propose that these boundaries can be overcome is by orchestrating network mobility, which then becomes a paradox that might have become too difficult for the network management of the Firsam project to manage.

9.3.3 Managing innovation appropriability

If properly managed, mobility of knowledge within a network creates value for the member firms (Dhanaraj and Parkhe 2006). To facilitate this, the hub firm must manage the distribution of this value in an equitable manner, so that the firms included in the network believe that they are treated fairly. This creates innovation appropriability which is a strong prerequisite for creating trust within a network. The notion of some companies acting as free riders might damage the trust that must be built in order for a network to function. A representative of the network management group described how they tackled this issue in the management group.

We tried to be “the spider in the web” in these sub-networks or groups of companies that were put together to work on business projects. We wanted to make sure that everybody did their part and that they worked together. It turned out a bit shaky, different questions started to come up, “who is going to send the invoice” and “if I am going to send the invoice you will make more money than I”. These questions came up because these companies were not used to working like this. They had bought some services from each other, nothing more. They were really skeptical towards working together from the outset. Maybe that would have been something for us to work harder on, to let them spend more time together, to let them get to know each other better.

(MG 1, 2010)

A representative of the network management group described how they struggled to manage appropriability and creation of trust among the network members.

We were probably not firm enough when trying to make these companies work together in order to build relationships. It took a long time to convince them that the other companies were not dangerous. There was no collaboration. We tried during the first six months to put on some kind of mini trade fair were the companies were supposed to tell each other what they did, about their customers, how they worked and what kind of machines they used in their production. Then we thought that it would be nice to organize a day when we opened up this to the public, in order for the people of Söderhamn to come down and look at the local businesses. But”, no, no, no” That was not possible! Then this working together business had gone too far. Then someone claimed that “someone is going to steal my customers”. We were also in the midst of a booming economy. If we had a recession, then it would probably be cheaper and easier for people to sit down and work together. I think a lot of the things we did were positive. There are always some things that you could have done differently or better in hindsight.

(MG 1, 2010)

The problems of creating trust in the network by managing the networks’ appropriability were also felt by the respondents representing the companies in Firsam.
The major task of Firsam, as I see it, is to teach the companies in Söderhamn, or the companies within the project, how to network. Partly because I sense that many of the companies do not dare to share all the information needed. They are afraid that if they work on this network project, others will benefit from the job they are doing. “Will I make a loss at this project?” Lot of things like this have cracked and destroyed many projects of this kind, at least from what I have seen. “Is it fear, or is it ignorance?” Well, it is both of course. If I get hold of some information that is sort of unique and share this inside the network, ”how will they handle this information?” ”how will they use this information?” ”will they steal my business?” It evokes a lot of questions. ”if I share my business secrets, and they start to use it, will I lose money?” I have seen a lot of examples… complete honesty and openness is a must, otherwise it is impossible to work in a network. (EC 2, 2010)

I mean, obviously it is a problem, we have had… here like in other places, people that do not want to re-release and share all the information, you keep something to yourself, safeguarding information as a means of power. That is the biggest challenge in all networking projects, as I see it, to find this openness. You must feel secure and be safe from… you must have decided that this network is going to be beneficial to me, that this is worth gambling on. (EC 1, 2010)

We also knew in Firsam that the potential was huge, if everyone shared their customers, but no one was willing to do that. When you visit a customer you quickly see “in those projects that and that company could be involved”. But, it is only to the companies that you are fond of that you say ”join us next time we visit this customer”. So it all comes back to the matter of trust. The companies you do not want to work with, you do not get involved with. The more you get to know each other the more trust are created, and that way it would have solved itself in time. But it is not built by four people brought in from the outside that need to build a new network of contacts, which has no connection to the reality of the local businesses. It must be built from the inside. (MC 3, 2010)

Values are hard to talk about, but the feeling of “no, I do best by myself, I will stand on my own two feet, I do not even want to put myself on display because someone might steal from me” was very present. There was no openness and it takes an incredible amount of trust and developed relationships to do business together. We never got that far. In my so called sub-group there are some people that I like to work with, where this collaboration is working. We have the same values and therefore we can create business for all of us in the sub-group. (MC 2, 2010)

9.3.4 Analysis out of the aspect of the bridging and bonding form of social capital
Dhanaraj and Parkhe (2006) state that the network hub as the “orchestrating unit” must be proactive in ensuring that the value created in the network is shared in a manner that is believed to be fair by the involved parties. One of the respondents representing the network management group seemed to express such a responsibility. The respondent claimed: “We tried to be “the spider in the web” in these sub networks or groups of companies that were put together to work on cases. We wanted to make sure that everybody did their part and that they worked together”. The respondent also revealed that there was a real concern among the companies that the value of the joint business ventures would not be shared fairly. The respondent expressed that “It turned out a bit shaky, different questions started to come up, “who is going to send the invoice” and “if I am going to send the invoice will you make more money than I”’. Another respondent representing the network management also described this suspicion among the companies - the respondent said that: “Then someone claimed that “someone is going to steal my customers”. A respondent from the network management group later accepted some responsibility for the lack of network appropriability and added that “Maybe that would have been something for us to work harder on, to let them spend more time together, to let them get to know each other better.” Another respondent representing the management group expressed a similar view: “We were probably not firm enough when trying to get these companies working together, in order to build relationships. It took a long time to convince them that the other companies were not dangerous.”
The problem with a lack of belief in the fair sharing attitude present in Firsam was also voiced by many of the respondents representing the companies within Firsam. A respondent expressed that “they are afraid that if they work on this network project, others will benefit from the job they are doing”. Another respondent said that some of the representatives of the companies did “safeguard information as a means of power”. It therefore seems as if the network appropriability was a major unresolved issue in the project.

Dhanaraj and Parkhe (2006) claim that there is a strong connection between network mobility and network appropriability. When the concern for network appropriability is high, information regarding know-how is not shared and it gets more difficult to cross the boundaries that exist between the companies. One respondent representing a company in the Firsam project expressed that “the companies you do not want to work with you do not get involved with. The more you will get to know each other the more trust is created, and that way it would have solved itself in time”, thereby indicating a tendency to exclude unknown or untrusted companies. Another respondent stressed the connection between shared values and shared gain within a network and stated: “We have the same values and therefore we can create business for all of us in the sub-group.” These quotes indicate that so called “sub-groups” emerged where the companies felt comfortable with each other. These groups tended to share information and the appropriability in these groups therefore appeared considerably higher. Dhanaraj and Parkhe’s (2006) notion that there is a connection between network mobility and appropriability therefore seems to be valid in the case of Firsam, since the appropriability was believed to be higher in the sub-groups where the companies tended to know each other better. In addition, the notion that network mobility within the Firsam project was considered to be low might therefore have affected network appropriability and vice versa. According to the interviews conducted in 2010 network mobility and appropriability both appeared to be relatively low within the Firsam project.

Dissatisfied actors in a network may find each other and form cliques. This is a negative effect of the bridging form of social capital described by Portes (1998). This however entails the creation of connections between actors in different social contexts. In the case of Firsam the two groups MC and EC did not merge, and therefore the formation of sub-groups or cliques within the Firsam project were probably related to the bonding form of social capital keeping already existing social contexts intact. The cliques within the Firsam project were therefore probably not novel network structures but rather the remains of contacts made prior to the start of the project. The failure to reach sufficient network mobility and appropriability was therefore not due to dissatisfied actors creating coalitions. It was due to existing coalitions being too rigid and the homophily that kept them together being too strong. The benefit of creating new network ties was therefore overlooked as a consequence of the bonding form of social capital.

9.3.5 Managing network stability

The management of network stability involves the impression of the notion by the hub that the benefits of being in the network outweigh any benefits of leaving it. This is because being part of a network that is perceived as stable elevates trust among the companies, as the focus will be on long-term rewards and not on short-term opportunistic behavior (Dhanaraj Parkhe 2006).

The representatives of the companies in Firsam showed an awareness of this issue and claimed that there must be visible and concrete benefits of staying in a network in order for the network to keep going.

Then you must remember that if you are supposed to work in a network there must be a good reason for this. I mean, why you think the Gnosjö region has become so successful if I would not believe that the system of working in a network would be beneficial… Or let me turn the argument around, if I would believe that we, as a company, would be more successful alone, I would never join projects of this kind. There must be some real benefits to working like that. Otherwise it would be no point in it.

(EC 2, 2010)
This association, I think… my opinion is that you should strive to build an association that you cannot afford to be left out of. It is supposed to be so good that you cannot be left out. Therefore I worked a lot on the joint purchasing agreements, because that is a really good and profitable aspect. If we offer really good purchasing agreements, then you cannot afford to be left out. If you got this down, then the rest of the networking business will come naturally, because purchasing agreements are real and pressing issues. That will make people join forces, as an incentive.

(N 2, 2004)

Some respondents felt that the stability of the network and commitment of the other companies in the network were prerequisites for remaining in the network. A respondent leaving the network expressed this notion.

I was there and contributed, helped in creating this solution. After that there were some parts that were divided among the companies, stuff to do. I had some parts, others had some. Some people did not do their parts, so I said: “If you do not do your parts, I am out”. There were no improvements so I left the collaboration.

(MC 4, 2010)

We needed a whole lot more in order to build a confidence in each other and an understanding for the whole of the networking process. “Do we really want to help each other or are we standing at the sides as passive bystanders?” We did not get that far in that area.

(MC 3, 2010)

9.3.6 Analysis out of the aspect of the bridging and bonding form of social capital

Network stability is an interesting dilemma for the network hub, according to Dhanaraj and Parkhe (2006). A network is a loosely coupled inter-organizational coalition. It possesses the ability to adapt quickly to external needs, but this ability can also lead to instability, which can damage the network’s innovation output. A network that is believed to be unstable will suffer since the members will be hesitant to invest their time and know-how in the joint projects. Investments made today must seem likely to lead to value creation in the future. This perception of future value is dependent on the ability of the network hub to make the shadow of the future visible. If the shadow of the future is visible and long the network members will be prepared to refrain from short-term opportunistic behavior in favor of bigger rewards in the long term.

Most of the respondents representing the companies within the Firsam project seemed to appreciate the benefits of long-term networking. One respondent said: “If I would believe that we, as a company, would be more successful alone, I would never join projects of this kind”. The respondent later stated that “there must be some real benefits to working like that otherwise it would be no point”, indicating that he believed that working in networks must have long-term benefits, but that these benefits must be made clear in order for the network to have a future. Another respondent expressed a similar view and stated “My opinion is that you should strive to build an association that you cannot afford to be left out of”. This quote also implies that the future rewards of being in the network must be clear, but the respondent added that he believed there must be more short-term incentives to stay in the network to give the network longevity. The respondent mentioned the prospect of making joint purchasing agreements with suppliers as a way of providing clear short-term benefits to the members of Firsam. He said: “Because purchasing agreements are real and pressing issues, this will make people join forces, as an incentive”. The expressed belief that there must be more short-term benefits as well as clearly defined long-term benefits to stay within the network was illustrated by the respondents’ spoken will to work on “practical” and “real” business projects as soon as possible. One of the respondents said: “We should have something real going, a real business project, to work on together”. Another respondent claimed: “The things that we will learn from each other must be put to a practical use”. These quotes can be interpreted as a sign that these respondents wanted to leave the abstract planning stage as soon as possible so that short and long-term gains could be made clear to the network members. This would favor network stability.
A positive effect of the bonding form of social capital is that the information shared among the actors might be more relevant to the broader aggregate since the knowledge of the common goals might be greater in a closed-knit network. Working on "real" and "practical" cases, and abandoning the abstract planning stage earlier might be a way in which to make the information shared more relevant to the companies' business. Hypothetical information about business ventures that are not currently in operation probably does not feel pressing and therefore feels irrelevant to the participants. The relevance of information probably creates a bonding mechanism among participants, since the benefits of forming collaborations is clearer. Infusing network stability by orchestrating the network mobility and appropriability will therefore probably lead to creation of the bonding form of social capital among the network projects participants.

One respondent said: "Some people did not do their parts, so I said "if you do not do your parts, I am out". There were no improvements so I left the collaboration". This is a typical example of a statement that indicates a belief that the investments made in the network were not supported by other players, which is damaging to network stability. Despite this quote the Firsam network did not officially lose many members, which could indicate high network stability. This could be misleading, however, as membership did not involve paying a fee or signing a contract. There was therefore no urgent need to leave the network, which may explain why most of the companies remained members, at least officially. According to Dhanaraj and Parkhe (2006) the isolation of members and cliques within a network can tear the network apart even if the network officially continues to exist. This poses another threat to the network stability. A respondent posed the hypothetical question: "Do we really want to help each other or are we standing at the sides as passive bystanders?" He then stated: "We did not get that far in that area". This seems to indicate that some companies within the network became isolated and passive. The previously cited quotes such as "companies you do not want to work with you do not get involved with", and other respondents’ willingness to talk about "sub-groups" within Firsam might also indicate that some of the companies within the Firsam project created cliques. The isolated companies and the cliques that appear to have developed within Firsam therefore bring into question the network stability within the project even if the official loss of members was relatively low.
10. Analyzing the effects of the network on a business level

A regional strategic network often has preset goals that are communicated early in the formation of network. In investigating the effects of a regional strategic network these goals might be a focus of evaluation. These goals may change during the development of the network, which complicates the evaluation process. The goals of a regional strategic network are often expressed in financial terms, e.g. increased revenue, but the effects might entail other benefits for the included companies and the region. The issue is therefore multi-dimensional. The effects of a regional strategic network can be found both on a regional level and on a business level as indicated in the model (figure 2).

10.1 The two groups have not merged

In order to fulfill the goal of vertical collaboration within the Firsam network the two groups of MC and EC should merge, or there should at least be cohesive network mixing of some of the manufacturing companies and electronics companies. Most of the respondents did not feel that this goal was reached.

We never got such a big project that we could mediate work opportunities to the others in Firsam. We were looking for projects that would include working on an actual product to Firsam, where the engineering companies could bring in the electronics companies, and their competence. Such a complete project never arrived. Some project maybe included one or two companies at once; that was it.

(EC 7, 2010)

Now I am involved in manufacturing so I see the internal problems, both the problems that we had in Verkstadcentrum, and the fact that these problems appeared in Firsam too. I feel that we have a lot of customers when it comes to design, where we act differently towards the customer. Sometimes I feel that we could have charged the right people for the work that we as manufacturers had to do in design. In that way our customers would have seen the real cost for this work. When we need to contact the production company on behalf of our customers to solve certain problems regarding the design, the charge has been included in our customer service. It would have been brilliant if the cost for that kind of work would be managed properly. But the design companies have their philosophy, they neglect to visit the manufacturers and ask “what machines do you have? What capacity do they have? What bending area works? How do you like to handle the welding?” To ask these questions would enable them to design the blue prints so they would fit the local manufacturing companies. Then we would be even better at educating the design engineers, telling them how they should manufacture the different components. Unfortunately we never got that far in this project.

(MC 3, 2010)
A lot of the companies did complement each other. Since we worked in education we complemented everybody, but a company working in engineering might not complement all the other companies that well. Engineering and electronics do complement each other really well. In the circuits there is always a part that needs competence in engineering. So there were a lot of synergies to be explored in this group of companies. It is a natural step, if you work in electronics for EC 1, then you might need EC 4 in this group in order to find a new customer demographic. Once you find those, you might need to educate those customers as well or other types of augmented products. Maybe they should have tried to sync the project a bit more according to the different line of business the companies were in. That way you might avoid that all of a sudden there are some companies that get excluded from the group. They might say “these three or four companies get to work all the time in different projects, but we get nothing”. So, when it comes to the management and assembly of companies, in accordance to the line of business they were chasing, it was something that they may have to look over earlier in the project. Now these different companies never found each other.

(EC 7, 2010)

The companies that are dealing with the electronics side of things, and that originates from Ericsson and Emerson, I mean, they built the factory here in Söderhamn in 1946. Obviously there is a lot of history and an old culture of how to conduct business still present in these companies, notions that might not be beneficial today. “This is how we always have done things” the old boys might say. No, we must have a new way of thinking; it was in the 1970s we worked like that. There was a lot of this mindset present, from the engineering companies as well. There were two different groups of companies from the outset. Maybe they should have kept the groups as they were and let them work individually. Now they merged everything together and put it all in a blender, to afterwards pick up some interesting bits that emerged from the mess, which made it difficult.

(EC 1, 2010)

It all ends up on such a high strategic level when political white-collar people deal with trade and industry matters. They do not see any details at all. It all becomes very abstract and non-executive. It is of course really hard to talk to people about things they never have done themselves. It could have been a very good collaboration project and exchange if some relationships were built, but that was not the case. They need to consider this in future projects. At least everybody shared the same goals, so it should be possible, this joint collaboration. But if we do not know each other’s business how can we work together?

(MC 5, 2010)

Arild formed Firsam. He came from the electronics business and it steered the project. It was not to support the manufacturing industry of Söderhamn, but to save the Emerson Company, that was the goal of the Firsam project.

(MC 2, 2010)

10.2 Analysis out of the aspect of the bridging and bonding form of social capital

In order to fulfill the goal of vertical collaboration with the vision of “from idea to the final customer in one chain”, the manufacturing companies and the electronic companies must be brought together. The goal includes the idea that the manufacturing companies should undertake the “design for manufacturability/design for automated assembly” and “manufacturing of all parts” within the “wheel” that had been created as a vision of collaboration (figure 7). Based on the interviews undertaken in 2010 the majority of the respondents did not believe that the two groups had formed a cohesive network.

One of the company representatives said that the business projects that were undertaken within the Firsam project never included both groups of companies. These groups therefore never got to work together on a business venture. The respondent stated: “We were looking for projects that would include working on an actual product to Firsam, where the engineering companies could bring in the electronics companies, and their competence. Such a complete project never arrived.” The belief that such a business case never arrived might also be a result of the inability of the companies within Firsam to see the possibilities of working together, thereby missing the chance of joint collaboration be-
between the groups. The lack of business projects that could include companies from both groups was therefore maybe both the cause of the failure to bring these groups together, and a result of the failure to integrate the two groups. The focus on production of goods rather than on business development and marketing within the Firsam project may have contributed to the lack of business ventures undertaken during the lifespan of the project. The dependence-oriented culture is described as contributing to the product focus. The historical roots cementing Söderhamn in the frame of mind that is typical for traditional industrial communities gave a production and manufacturing focus to the companies in the region.

One of the respondents attributed the perceived failure to bring the two groups together to the lack of knowledge about each other, but highlighted the possibility of finding areas of collaboration. The respondent said: “It could have been a very good collaboration and exchange if some relationships were built, but that was not the case. (...) But if we do not know each other’s business how can we work together?” Another respondent also expressed the belief that there were areas where the two groups of companies might find joint business ventures. However, the respondent believed that the network management should have been more active in bringing these groups together. The respondent claimed: “Engineering and electronics do complement each other really well. (...) It is a natural step, if you work in electronics for EC 1, then you might need EC 4 in this group in order to find a new customer demographic. (...) So, when it comes to the management and assembly of companies, in accordance to the line of business they were chasing, it was something that might have to look over earlier in the project. Now these different companies never found each other. The respondent thereby voiced the opinion that the companies were too diverse even if some of the companies could have formed interesting collaborative projects. Another respondent expressed a similar viewpoint by recognizing that there were two groups of companies that were not able to merge. The respondent said: “There were two different groups of companies from the outset. (...) Now they merged everything together and put it all in a blender, to pick up some interesting bits afterwards that emerged from the mess. That made it difficult”.

The focus applied in the Firsam project and the rift between the companies can both be attributed to the influence of the bonding form of social capital. The involved companies were hindered in making bridging connections with companies from other social contexts than their own, and traditional values influenced the project, making it product focused instead of market focused.

A respondent representing a manufacturing company within the MC group expressed the need for better communication between the manufacturing companies and the companies designing the products. The respondent claimed: “the design companies have their philosophy, they neglect to visit the manufacturers and ask “what machines do you have?” The respondent then claimed that a closer relationship and improved communication would have resulted in a learning process where the products could have been designed to fit the manufacturers’ manufacturing process. The respondent claimed: “Then we would be even better at educating the people doing the design, telling them how they should manufacture the different components. Unfortunately we never got that far in this project.” The notion that a lot could be learned by forging closer relationships between the two groups therefore seemed to be present among the involved companies. Unfortunately most of the respondents believed that the two groups never became integrated enough to really initiate this learning process.

Some of the respondents representing companies in the MC group voiced the opinion that the group of companies that had a connection to the EC and Emerson Company formed a dominant group within the Firsam project. A respondent representing a company from the MC group said: “It was not to support the manufacturing industry of Söderhamn, but to save the Emerson Company, that was the goal of the Firsam project”. The feeling that it was the EC group of companies that controlled the project was also supported by the fact that they formed a majority of the companies in the project. In addition, the initiator and driving force behind the Firsam project had previously worked at the Emerson (formerly Ericsson) plant as plant manager. A respondent representing a company from the MC group said: “Arild formed Firsam. He came from the electronics business and that steered the project”. A feeling among representatives of the MC group that the project was not run in their favor was likely to affect network stability. A feeling of “us against them” can create cliques of companies drawn together by a feeling of discontent at being a minority within the project.
This “us against them” attitude that seemed to exist among the companies in the Firsam project is a typical response to the bonding form of social capital. Over-embeddedness in a social context creates a sense of self-sufficiency (that may not be justified) that can alienate other groups, especially if the first group appears to be more powerful in some way. The fact that the initiator of the Firsam project had a connection with the Ericsson plant probably gave a sense of power to the group of companies that had prior connections to that company. This seemed to generate a feeling of exclusion that most likely alienated the MC group from the project.

10.3 No concrete business generated

All of the respondents shared the notion that the economic outcome of the Firsam project ought to have been much greater in terms of orders generated and new jobs created. Many respondents failed to mention any concrete examples of direct business generated by Firsam, and those who did mention instances where business was created felt that there were too few of these instances.

There are a lot of positive things that would not have happened without Firsam, if we would not have incorporated that way of working together. But if you look at the business side of Firsam, how much business Firsam generated, the jobs that actually got created, then it could have been better handled. I expected much more than the project actually delivered, in regard to that.

(EC 4, 2010)

To meet other business owners is good; it is nothing that you have time to organize yourself. So just to meet regardless if it entails a field trip, or a meeting with the local schools to discuss education, or to get information about “Norrlandsfonden”9, is of importance. But in reality, or more concretely, it has not amounted to much, no orders were generated – that must be said.

(MC 3, 2010)

We (his own company) started in the telecom industry when it was all the way down in the dumpster, short after the big industry crash. It was completely the wrong time in which to start a new business. It was a long uphill struggle. I had a lot of expectations that this project would amount to something. There are similar projects in Sweden, networks within different businesses. Metropolis, up in Norrland, is one example. It has its head office in Kalix and Pajala runs the electronics side of the business. They have dealt with a similar assembly of companies and structure. So, as a newly started business, I had a lot of expectations on finding business. It did not turn out that way unfortunately. I do not know if we gave anything to the others, or if they gave anything in particular to us, nothing much at least. Everybody was struggling in our line of business.

(EC 7, 2010)

Attempts to support new business ventures and attract companies to establish themselves in the region were also described as less than successful by most of the respondents.

Regarding this work on establishing new companies in the region, I have not been so active. I have intentionally kept myself out of those projects. These projects have also been less successful. They have supported business models that have been faulty. It has also become obvious that these businesses have not been strong enough. It has involved house manufacturing, knives, design of speakers and TV-mounting. None of these business ventures that I just mentioned came to anything. They filed for bankruptcy or were liquidated.

(EC 2, 2010)

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9 A foundation set up to promote regional business within the manufacturing and service industry in the northern parts of Sweden.
10.4 Analysis out of the aspect of the bridging and bonding form of social capital

One of the goals set for the Firsam project was to generate business for the involved companies and thereby contribute to Söderhamn’s regional growth. The business generated for the included companies was supposed to be the result of vertical collaboration, influenced by the catch phrase “from idea to the final customer in one chain”. By combining the know-how of the companies within the Firsam network, the companies were expected to be able to undertake larger orders from customers.

All of the interviewed respondents said that the Firsam project generated less business than they expected. This is illustrated by statements like “But if you look at the business side of Firsam, how much business Firsam generated, the jobs that actually got created, then it could have been better handled”, “But physically, or more concretely, it has not amounted to much, no orders have been generated -that must be said”, and “I had a lot of expectations on finding business. It did not turn out that way unfortunately”.

Firsam worked actively to establish new companies within the region, and tried to attract existing companies to establish production in Söderhamn. These attempts were welcomed by the representatives of the companies in the Firsam project, but the success of these ventures was questioned by many of the respondents. One of the respondents expressed this criticism: “They (Firsam network management) supported business models that were faulty (...) they have filed for bankruptcy or they have been liquidated”.

From the respondents’ comments it is easy to conclude that the tangible and practical aspects of the project, like attracting business ventures and establishing new companies, were not satisfactory. The Firsam network management presented official figures indicating that the formal goals regarding the tangible output of the Firsam project were met. Agneta Brunzell from the local newspaper Hälsingekuriren (2006) reported figures presented by Firsam showing that the project met its goal of creating 30 new job opportunities within the 2 first years of the project. Brunzell lists companies that were established in the Söderhamn region with the help of Firsam: Skyltar & Märken Prono AB employed 15 workers in these 2 years, Svenska Väggfabriken employed 9 workers, C2SAT Production employed 2 workers and Transmission Audio Scandinavia was expected to employ 3–6 workers within a few months from the time the article was published. The Firsam management group were therefore able to present quantitative results that justified the network. However, the subjective opinion of all the interviewed respondents from companies within the Firsam project claim that the business ventures undertaken within the Firsam project did not produce tangible results.

The expressed lack of tangible business projects within Firsam may be explained by many of the issues described and analyzed earlier in this thesis. The Firsam network did not merge into a cohesive network, which must have increased the difficulty of undertaking business ventures that followed the vision of “from idea to the final customer in one chain”. Building connections between the two previously existing groups was hindered by the prevailing bonding form of social capital, and where these connections were made, the absence of a technology broker meant that the projects were badly managed. Clear direction about the relevance of information to specific parties and the subsequent sharing of this information was prevented not only by the lack of a technology broker but also by the lack of trust and appropriability among the companies.

Knowledge mobility within the network cannot be reached when it is not clearly specified what each company within the network can bring to the table. When knowledge does not travel among the companies, the actual gain for an individual company in investing time to build a strategic network becomes uncertain. The network appropriability therefore becomes weaker and the network becomes too unstable to function. The bonding form of social capital began this chain of events as the companies were unwilling to connect beyond the boundaries of their existing social context.
10.5 Learning the value of working within strategic networks

All the respondents said that the Firsam project was a success, even if they felt that the concrete results were meagre. One reason behind this sentiment was that the companies had learned how to network and the value of networking. The network management group explains this notion.

I think that the benefits that the companies got from this project were nothing they could touch, nothing concrete. The benefits were something that they found hard to express or talk about, since it was not a concrete product. What they got is a new frame of mind and a developed way of thinking. When they were working on lean production and generation shifts, they only cared about the generation shifts in the human resources, not on the factory floor. They came to realize the value of automation and a developed stock of manufacturing equipment. I do not think it is surprising when they say that it was a successful project, and that they cannot point to the exact reason why it was a success. There were not many products that came from the project, but I think that the result lies in the fact that we managed to change the companies’ attitude and they finally realized that networking and cooperation is of importance. They also realized that it is possible to achieve collaboration in Söderhamn. I also think that a lot of these companies would want to carry on working together after this project, since they realize that we only got half the way towards getting some collaboration going. Today there is a big chance of the network starting to produce real products as well, since the mental attitude is in place. So, I am not surprised at the fact that they think it is a successful project, or that they cannot express why it is a success. This is because there were no real products created.

(MG 2, 2010)

We have companies that have started in the region, so when we finished the project we had a lot of jobs that we could refer to, because we could, at least partially be, credited for attracting them to the region. But if you are looking for some kind of wise last words about Firsam, then I can say that this vision that Arild had initially, regarding the companies’ collaboration, they where “here” (indicating with hands a low position) and we got to “here” (indicating a higher position). We only got half the way. We got so far that we managed to change their attitude so they could realize that it is beneficial and not dangerous to work together, that there are opportunities in going together to Elmia; that it is not dangerous to show your products to the others in the network and open up your books to them. Maybe we never reached that “pot of gold” over “here” (indicating an even higher position with his hands) because it took time to get these companies to change their attitude. They probably do not realize this change themselves; still they think it is a good result even if they do not know why. We would have needed more time in order to produce these joint products that would have been the ultimate result of the initial vision.

(MG 1, 2010)

The companies interviewed also seemed to share this notion and expressed that they understood that networking is a learning process and that the Firsam project had provided them with that experience.

If you look at the Firsam project in its entirety is has actually meant a lot for Söderhamn. I would probably go as far as saying that, if you look at all the industry activities undertaken in Söderhamn during modern time, this is the best ever undertaken. Then obviously, you would have wished that it would lead to setting up major businesses in the region. But I think that Firsam has helped to develop all the included companies in the project. They learnt what it means to work in networks, to work together and to show consideration to each other. Everybody realized that it is not as easy as just putting profit margins on top of everything. It became pretty obvious that it would not work if everybody put their own profit margins in all the stages of the product development. To work on projects like these has probably been a very important learning experience for all the companies. It also generated a handful of projects that became real companies here in Söderhamn. As I said, nothing major, but if you compare it to previous industry activities undertaken by the municipality of Söderhamn this is still the best.

(EC 1, 2010)

My opinion of Firsam is generally positive. I guess I am a networking kind of guy; I enjoy these kinds of clusters. I have continued down this line and built networks during the whole history of EC 6 even if that network obviously has grown to become much bigger than Firsam. We were formed in 2004, so Firsam was an excellent opportunity for us to quickly build a network of suppliers and customers.

(EC 6, 2010)
I have always been positive towards the Firsam Project. I had different kinds of educational programs through Firsam, where I could establish contacts with other companies. Through these other business owners I learnt a lot, and I learnt the value of these kinds of connections. I learnt from the educational programs, but also from the people involved, and that helped me in building my network. It is a lot easier to call someone up if you already got to know them and ask about a specific case, or to ask questions in general.
(EC 4, 2010)

As far as I am concerned I think that Firsam turned out to be some kind of milieu for the companies to learn the art of networking, which was very useful. I still live in a small version of Firsam, some of the companies that have become very tightly connected. It usually forms small sub-groups, groups that naturally fit together, and these groups still functions. We get a lot of business that way, through these groups.
(EC 6, 2010)

It was all about learning to deal with a lot of different people with willpower, to learn how to push this kind of thing forward and get results. I think that a lot of business people are used to do it their own way. Then, you learnt how this sort of project works, how to deal with the people from the municipality. We also established some contacts with companies that eventually ended up establishing themselves in Söderhamn.
(MC 5, 2010)

There were a lot of us that said “God, we could have been able to do so much more in Verkstadscentrum if we had the same resources as Firsam had”. It was horrific to see four full time employees, millions getting spent and for what? Nothing more than we managed to do in Verkstadscentrum. On the other hand, there were field trips and educational meetings that were costly, so we got that out of Firsam. We did not get any orders but we got some form of networking going, still not much compared to what we got out of Verkstadscentrum that was run by pure commitment from its 15 members.
(MC 3, 2010)

We learned how to cooperate. We had to cooperate with other companies in different aspects. We also had to make joint decisions at the board, and then you were forced to come to an agreement. There was also a lot of discussions about not to step on the toes of the local department of trade and industry. It was all an important learning process.
(MC 5, 2010)

I think that it is, after Firsam, a much closer collaboration between the companies. Maybe not between all of them, some of them probably want to work on their own. But I think that it is easier for them to work together now, to call each other up and ask for favors and services.
(MC 4, 2010)

You must realize that building a network is one thing, because there is a way in which you can build a network and still be competitors. You can still do a lot of good things together that helps in developing both of the companies. But if you are going to do projects together towards the bigger customers then it takes a lot of, not only know-how, but also a kind of magnanimous attitude. To be able to think in a different way, that is not easy. Everybody is his own best friend, at the end of the day. Everybody who joins these types of collaboration projects hopes that it will benefit their own company and that it will lead to increased sales. But, then question arises such as “ok, am I going to decrease my profit margins now?”, “I could actually have taken on this project by myself and be running it in my own interest”. Then you are faced with a dilemma, as I said before: “Am I going to give up on a 7 % profit margin to let someone else into this project?” At least this project (Firsam) has helped to increase the awareness of these dilemmas.
(EC 1, 2010)
I do not have insight in all the things that the network management did. They worked on establishing new companies in the region, and that is obviously positive. Generally, I feel that to use EU money and other public resources in these types of projects, to attract new jobs and to attract companies to the area is a very positive thing, especially, when comparing it to other ways in which public resources are being wasted. From that perspective I think that the money has been well spent, although you will find some failed business projects. Some projects regarding establishing new companies have been a success, which is good. Also, the networking process and the education program were handled in a very good way. The companies have learned how to network.

(EC 4, 2010)

The money is all spent, so the project is over. But, you can still establish the fact that we have got something positive out of this experience. We have collaboration between the companies in this region that we did not have before. That will probably generate business in the future.

(MC 2, 2010)

### 10.6 Analysis out of the aspect of the bridging and bonding form of social capital

When a respondent representing the network management group talks about the results of Firsam the major contribution that he highlights is the attitude change among the companies involved. This attitude change is described as a realization that knowingly building strategic networks can be important for the business development of individual companies. The respondent says: “There were not many products that came from the project, but I think that the result lies in the fact that we managed to change the companies’ attitude and they finally realized that networking and cooperation is important. They also realized that it is possible to achieve collaboration in Söderhamn.” The last sentence indicates that the realization that networking is possible in the Söderhamn region is important in itself. It indicates Söderhamn may be a particularly difficult place for networking. The perceived importance of bringing this realization to the companies within Firsam therefore seems to be greater than the coming to terms with the overall importance of networking strategically. Another respondent representing the network management expressed a similar view: “We only got half the way. We got so far as to change their attitude so they could realize that it is beneficial and not dangerous to work together, that traveling together to Elmia might bring opportunities, that it is not dangerous to show one’s products to the others in the network and open up your books to them. Maybe we never reached that “pot of gold” over “here” because it took time to get these companies to change their attitude”.

This quote seems to indicate that the goal of Firsam - collaborating on joint business ventures, was not reached - but that the foundations for reaching that goal had been put in place. Another respondent representing the network management said: “Today there is a big chance of the network starting to produce real products as well, since the mental attitude is now in place”. This indicates that the Firsam project might produce regional growth in Söderhamn in the long run, even though this was not believed to be the case during the lifetime of the project.

Draulans et al (2003) claim that companies that are experienced in managing alliances do better at creating new alliances. Therefore, instead of focusing on the fit between the companies and the characteristics of the alliance it is more useful to look at the abilities of the companies to manage the alliance. If strategically managing networks and alliances is a craft that must be learnt, the Firsam project has surely brought some benefits to the included actors. Experience in handling strategic networks increases cooperation among the actors and thereby creates a more open socio-economic climate in the region.

The respondents representing the companies in the Firsam project all seemed to be very positive towards the project when it was discussed in general terms. One of the respondents even claimed: “If you look at the Firsam project in its entirety is has actually meant a lot for Söderhamn. I would probably go as far as saying that, if you look at all the industry activities undertaken in Söderhamn during modern time, this is the best ever undertaken.” Other respondents representing the companies made similar remarks, A respondent said: “My opinion of Firsam is generally positive”. Another stated: “I have always been positive towards the Firsam Project”.

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As previously mentioned, the respondents did not believe that the concrete outcome of the Firsam project was that positive in terms of business generated. Nevertheless they seemed very positive about the project in general. The reason for their general positive feeling towards the project seems to be difficult for the majority of respondents representing the companies to articulate. A respondent representing the network management claimed: “I do not think it is surprising when they say that it was a successful project, and that they cannot point to the exact reason why it was a success”. The respondent explained this by saying: “I think that the benefits that the companies got from this project were nothing they could touch, nothing concrete. The benefits were something that they feel it is hard to express or talk about, since it was not a concrete product”. The respondent representing the network management group further developed his thoughts and assessed the development of the companies within Firsam as follows: “What they got is a new frame of mind and a developed way of thinking”.

I believe that this is a reasonable explanation for the positive attitude of the companies towards the project despite the claim that the goals of Firsam were not reached. Moreover, companies that are very action dominated and have concrete foci such as quantifiable goals that are being followed up, may find it hard to express goals that have been reached on a more subjective level. The respondents might be more used to talking about goal fulfillment in terms of increased revenue and shortened delivery time. Thus, a “new frame of mind” or a “developed way of thinking” might be hard to express explicitly as a reason for a successful venture. The companies in the Söderhamn area have also been previously described as operating in a region were a strong focus was placed on product development, leaving business and market development to the side. This may also be indicative of a business milieu that tends to focus more on tangibles than on abstract issues such as brand management and marketing ventures in general.

Even if the reasons behind the perceived success of the Firsam project were difficult for the respondents to articulate, many of the company representatives expressed views similar to those expressed by the network management. A “new frame of mind” or a “developed way of thinking” seemed to be expressed, at least implicitly, as a reason for the success of Firsam. One company representative described the learning curve that Firsam had exposed the companies to as follows: “They learned what it means to work in networks, to work together and to take consideration to each other. Everybody realized that it is not as easy as just putting profit margins on top of everything”. Another respondent said: “We learned how to cooperate. We had to cooperate with other companies in different aspects”. A third respondent expressed this in a similar manner: “Also, the networking process and the education program were handled in a very good way. The companies have learned how to network”.

The process of learning how to “network” was often highlighted by the company representatives. Individual respondents provided different descriptions of what this “learning how to network” actually entailed. A respondent said: “It was all about learning to deal with a lot of different wills, to learn how to push this kind of thing forward and get results. Another respondent described how this learning curve developed: “We also had to make joint decisions on the board, and then you were forced to come to an agreement”. These quotes indicate a commonly held view among the respondents that Firsam had taught the companies within the project to practice the art of coming to terms with other companies and developing trust between themselves and other organizations. A notion of the value in having external connections with others was also emphasized. One of the respondents said: “I think that it is easier for them to work together now, to call each other up and ask for favors and services”. The initial fear of reaching out and initiating collaboration seems to have been dissipated. In addition, the dilemma of sharing revenue with others versus the benefits of joint collaboration was realised within the Firsam project. As one respondent put it: “Then these types of question arise, ok, am I going to decrease my profit margins now? I could actually have taken on this project by myself and be running it in my own interest. Then you are faced with a dilemma, as I said before am I going to give up on a 7% profit margin to let someone else into this project? At least this project (Firsam) has helped increasing the awareness of these dilemmas”.

Strategic management of new network connections and structural innovation within a network context are contradictory to the lock-in effects and over-embeddedness associated with the bonding form of social capital. The regional socio-economic climate of Söderhamn is dominated by the bonding
form of social capital, which is at odds with the “new frame of mind” reached by the respondents. Strategic management of new network connections and bridging out of one’s own social context are actions associated with the bridging form of social capital. The “new frame of mind” or a “developed way of thinking” might therefore indicate that the attempt to facilitate the creation of the bridging form of social capital within the Firsam project generated some effects.

The chance to experience the difficulties of “networking” in practice prompted learning in the companies that may pave the way for future collaborations within the region. As well as the learning process described below, the Firsam project may have created in the companies a deeper awareness of themselves and their way of undertaking business.

10.7 A learning process in the companies

The network management group expressed that the main reason for introducing the so called ”wheel” (figure 7) into the project was to stimulate a learning process among the companies.

Many of the products that these companies had, and have, are possible to manufacture through an automated process, but in order to make that happen someone else has to get involved to design the blueprints so that they are suitable for automatization. That is exactly what Sunds Industrier did when designing their lay-out of this product. They took the leap, they designed the blueprints in CAD to automatize everything that is possible. They used laser to etch in numbers on the different components in order to make it easier to assemble the machine, and so forth. I do not think that only these companies needed to take this leap; I also think that the so called subcontractor manufacturers must follow. It is more and more common that the customer’s request some sort of entirety, some sort of all-encompassing solutions or components. If you look at the business side of things it also makes sense. If these companies have taken the time to redesign in order to automatize, then they tie their customers closer to themselves in a completely different way than the “yes, we will drill four holes in this piece of metal” attitude would do. To drill four holes into some piece of metal can easily be done in some low wage country, but the main benefit is that you tie the customer closer to yourself in order to make it a lot more painful for the customer to leave.

(MG 1, 2010)

Some of that mindset did stick after all. We got a great example of that development. (name of person in project) at (company in Firsam) did not say much at meetings, he was kind of “with his guard up”, but he absorbed all that was said. He actually invested in a giant robot, a welding robot that he still has installed at his premises. He took a complex product that he had, some sort of water cleansing machine, with a trillion different pipes in, that he manufactures for some other company. I think it has to do with some kind of water sanitation. Together with (another Firsam company) he took that product, and with the approval of the product owner re-designed it in 3D in order to use the welding robot to weld together some parts. He could then use the welding robot to mark and put numbers on the different parts to make it easier for the customer to assemble the finished product. He put up the whole process on the Internet, so that the customer could understand the process and more easily put an order, and also cut down on the delivery time. The design time of the product was reduced from 12 weeks to 6, 4 or 3 weeks, something like that. It was a significant reduction of the production process of this complex product, all because he had absorbed the gospel we were preaching regarding the need to automate the production. There is no way in keeping the identity of being just a subcontractor manufacturer, who only does what the customer is saying and not caring about anything else.

(MG 2, 2010)

We have also raised the question of making a complete business plan in our meetings. (Someone included in Firsam) told us “that saved my company, because when we dug out our old business plans from a few years back I could read what the “heck” I had set out to do, and now we are doing it and it works”. I think he was on the verge of going bankrupt then. That was also something that we argued for, that the companies should all make and review their business and marketing plans, and so forth. Just to understand what they set out to do in the first place and to keep their strategies current and in focus.

(MG 1, 2010)
If you add it all up then the result is not that visible. You must dig a bit further and brush away some dust to really see the use of these projects that we worked on, and how we got them to see the whole production chain. How we got them to understand lean production and automatization, the whole works. This guy at N 2 he did that lean production game, the famous one, and he went back home all agitated up. After a few weeks he had gone through the whole process with his staff and incorporated something into his manufacturing process that enabled him to manufacture these immersion heaters in a simpler and more efficient way. If you talk to them now, they will probably not remember where they got this idea from, or they will think that they thought of it themselves. In fact it is because of all the nagging we did “you must venture down this road, it is the only way”.

(MG 1)

Many of the interviewed companies included in the project seemed to have understood this message from the network management group.

Lean production is really good. We had a practical case down at the MC 5 plant where we had 2 products that we followed from A to Z. We did some suggestions for improvement that turned out really well. I went back to my company really excited and motivated. We had a product that we called 2 Coil and after the lean production case we had a good look at that product. We brought over people that worked with plastic, made some changes in our mounting, bought some new tools and redid the design of the product. That way we decreased the manufacturing process from 16 to 4 hours.

(MC 5, 2010)

I do not know if this knowledge exists within this group, this type of thinking regarding production technique. Or do they have to keep on working on their learning process? Are they still stuck in the old way of thinking, the mindset of doing traditional manufacturing? I think most of them are stuck in the old mindset, and I think that they might be a little bit afraid since this knowledge needs to be brought in from outside the region. It has gotten better and hopefully they will learn in time.

(MC 4, 2010)

You learned on different levels. It is always exciting when you are able to bring one of the bigger customers over to hear how, for instance, ABB does its business, or how Astra operates. Then you get closer as a group in Firsam, that is positive, I think. Then you get one step closer to the others and you could also develop new insights in how to develop your own company. It is good to be introduced to something that is “way off” all the things that you could even imagine before, you will then discover new possibilities both here and there.

(MC 3, 2010)

We have gained access to new resources and competence, but I guess competence is the main thing. We work with engineering and steel, but it is often the customer needs something else, like electronics or welding processes. This we could not provide. Now we can find this competence in this project, and therefore offer it to our customers.

(MC 2, 2010)

We want to be the company that helps the companies that do not have the competence in electronics to dare take on work where this competence is needed. If they do not have the competence they can bring us in as partners. Together we have a larger project. That is really what it is all about. You help your client maximize the revenue of their products, to sell more of their products. Or you help them decrease the cost of their products. That is what it is all about: to see the issue from your customers’ point of view, and to be able to offer all that they need.

(EC 6, 2010)

Some of the companies still find it hard to see this; their know-how lies in steel manufacturing. If you are going to look at the history to find out what is needed you realize that this entails subcontractors. They get a blue-print and they bend their steel and make the product just as the blue-print indicates. But it should be easy to understand that there is going to be some sort of cable connected to the box that they are making. They could say “that company could make that cable”. Then I can give a tender on the cable wiring. But they put on blinkers out of laziness, and refuse to see the whole picture. That is the thing Firsam has tried to change.

(EC 7, 2010)
Yes, we had some educational programs together, there we meet people that did not all have a back-ground in manufacturing. Therefore these people had different types of experience and know-how. If you would have these programs in Verkstadscentrum, then the welders would have met with the welders, the engineers would have met the engineers and the managers would have met the managers. By not doing this I think that we learned a lot more from each other. We could send people to these programs and expect a completely different result. We sent people on these educational meetings and it really opened their eyes to new things.

(N 2, 2010)

I think it is hard to tell how much effect it has given. Sure, there is going to be business left after Firsam that was initiated through Firsam. That would be mainly business that these companies would have never been able to attract and keep by themselves, because they were too small, or they would not have had the competence needed. But in order to keep the aftermath of the project going, I think that there is a need for more of these new concepts. If you got competence in one field of business, you could add the competence from a different field of business to create new concepts. If you look at a field of competence, then you can add more competence, then you can build certain expertise. If you look at electronics, for instance, in Söderhamn there has been a long history of electronic companies. Because of Emerson there is a huge competence in Söderhamn in electronics, therefore I feel that this is an area that we could continue to build upon, in order to create new job opportunities. It is all dependent on the willingness of the individual companies to start to merge their competence and know-how together.

(EC 2, 2010)

I think that this project has enabled us to see the whole picture, since we have know-how in many areas together. This would also enable us to use this knowledge in the production of goods, that the whole of the competence of the network is available to us. We can work together on production related manufacturing issues, so to speak. That way we have the opportunity to look at the design from a manufacturing perspective, that will enable us to get a very cost efficient solution to the whole process.

(EC 8, 2010)

If you would get the opportunity to redo the project then I would highlight that there is already a good competence in manufacturing. There are other things that are needed in this project. The marketing and the business development awareness, the awareness of the fact that you must have the whole package, understand the big picture. You must have all of these different competences in the project, and a willingness to contribute. Otherwise I think it is going to be tough.

(N 2, 2010)

If you look at the manufacturing companies, none of them is working in a specialized field. There are companies around in Sweden that are competent in electrics, electronics and all types of engineering. If you added a company, maybe just as a consulting firm, that got knowledge in business development, then you might find a way to tie the whole project together. But just to say “we are really good at manufacturing” and then roll up your sleeves and sit back – I do not believe in that at all.

(EC 1, 2010)

10.8 Analysis out of the aspect of the bridging and bonding form of social capital

By introducing the notion of vertical collaboration within the Firsam project, the network management wanted to broaden the minds of the companies included in the project. Involvement in a “from idea to the final customer in one chain” project would help the companies see beyond their own involvement in the product chain. A representative from the network management said: “It is more and more common that the customers’ requests some sort of entirety, some sort of all-encompassing solutions or components (...) If these companies have taken the time to redesign in order to automatize, then they tie their customers closer to themselves in a completely different way (...) To drill four holes into some piece of metal can easily be done in some low wage country, but the main benefit is that you tie the customer closer to yourself in order to make it a lot more painful for the customer to leave”. This quote indicates that the respondent believed that instead of offering “to drill four holes into some piece
of metal” a modern manufacturer must offer “all-encompassing solutions or components” to tie the customer closer to himself. If the manufacturing process of a company is closely intertwined through activity links and resource ties with their customers the customer will be more hesitant to change suppliers in the future. The realization to act towards this reciprocity is described as a reaction off seeing the production chain in its entirety and thereby being more involved in the design phase of the products. Another respondent in the network management claimed: “You must dig a bit further and brush away some dust to really see the use of these projects that we worked on, and how we got them to see the whole production chain”. This account also supported the belief that seeing the whole of the production chain was an important effect of the Firsam project on the involved companies.

The realization that vertical collaboration gives the companies in the Firsam project the ability to offer their customers a wider range of products or a more complete product seems to have become widely accepted among the companies. A respondent claimed “We work with engineering and steel, but often the customer needs something else, like electronics or welding processes. This we could not provide. Now we can find this competence in this project, and therefore offer it to our customers”. Another company representative said: “If they do not have the competence they can bring us in as partners. Together we have a larger project. (...) That is what it is all about; to see the issue from your customers’ point of view, and to be able to offer all that they need”. These quotes indicate that the customer’s needs may exceed the capabilities of an individual company. This should steer the individual company to look for collaborations within its network of contacts to satisfy these needs. The realization that the customers’ demands should guide the company towards collaboration with third parties seems to have been strengthened through participation in the Firsam project. A respondent representing a company within Firsam stated: “If you have competence in one field of business, you could add the competence from a different field of business to create new concepts (...) It is all dependent on the willingness of the individual companies to start to merge their competence and know-how together”. This statement indicates that new concepts can be created through the willingness of companies to act jointly in collaboration.

The realization of the synergistic effect of vertical collaboration on the individual companies’ business offering was widespread among the companies in the Firsam project. Nevertheless, there were still complaints about some companies’ unwillingness to see these benefits. One respondent claimed: “They get a blueprint and they bend their steel and make the product just as the blueprint indicates. But it should be easy to understand that there is going to be some sort of cable connected to the box that they are making (...) Then I can give a tender on the cable wiring. But they put on eye patches out of laziness, and refuse to see the whole picture. That is the thing Firsam has tried to change.” The quote indicates that some companies still did not realize the synergistic effects of vertical collaboration, even though the respondent being quoted does see the possibilities. Moreover, the respondent believes the intention of the Firsam project to be based on these synergistic effects, something that the network management had previously implemented. Therefore, the network management seems to have reached its intended target by exposing some companies to this synergy. The notion of the benefits of vertical collaboration are shown in what a respondent representing the network management called “a new frame of mind” for the involved companies.

A representative of the network management claimed that the network management group encouraged the companies within the Firsam project to review their business plans to keep them up to date. The respondent stated: “That was also something that we argued, that the companies should all make and review their business and marketing plans, and so forth. Just to understand what they set out to do in the first place and to keep their strategies up-to-date and focused”. The same respondent added: “To really see the use of these projects that we worked on, and how we got them to see the whole production chain. How we got them to understand lean production and automatization, the whole works”. These quotes indicate that the network management wanted to stimulate a learning process among the companies to encourage them to revalue their business offering in the light of their ability to “see the whole production chain”. The business strategies of the involved companies would therefore be updated and focused as the respondent indicated. The benefit of the companies’ experience of vertical collaboration should therefore not only help the companies to find new ways of collaborating, but also help in developing the individual companies’ business strategy.
The network management expressed that they intentionally exposed the companies involved in the Firsam project to vertical collaboration as a means towards their strategic development. Some quotes from the interviews with company representatives indicated some understanding of this. A respondent expressed this on a more general level: “It is good to be introduced to something that is “way off” all the things that you could even imagine before. You will then discover new possibilities both here and there”. The quote seems to indicate that a learning process was prompted by the novelties that the network management had introduced. The differences among the diverse companies involved in the project seem to have provided the network management with a pool of know-how that made it possible for it to introduce the companies to novel experiences. A respondent claimed: “If you would have these programs in Verkstadscentrum, then the welders would have met with the welders, the engineers would have met the engineers and the managers would have met the managers. By not doing this I think that we learned a lot more from each other (...) it really opened their eyes to new things.” The diversity of the included companies made it possible to bring people with very different knowledge together and therefore created a milieu for rich learning possibilities. Moreover, the exposure of the involved companies to other companies active in other aspects of the product chain made some of the companies question their business offering. A respondent indicated that he revalued his business offering and what it means to be active in a strategic network. The respondent stated: “The awareness of the fact that you must have the whole package, understand the big picture. You must have all of these different competences in the project”. Another respondent claimed: “I think that this project has enabled us to see the whole picture, since we have know-how in many areas together. (...) That way we have the opportunity to look at the design from a manufacturing perspective, that will enable us to get a very cost efficient solution to the whole process”. This quote also indicates that the exposure to companies working in various parts of the product chain broadened the individual company’s know-how. A manufacturer’s insight into a design company’s development of products can be a means for a company to gain a competitive advantage. This shows the value that exposure of a company to vertical collaboration might bring to that company.

Lifting the gaze of the involved companies from their own contribution in the total value chain of a product to a more holistic outlook on the creation of value has been described as one of the Firsam project’s more successful outcomes. Analyzing one’s place in the value chain and making new strategic connections with companies operating in different but complementary lines of business can seen as bridging structural holes in a network. The network management group introduced vertical collaboration and this notion opened the eyes of some of the companies to building bridging connections. Taking a less autonomous view of one’s own production and realizing one’s interdependence in the value creation of a product facilitates the creation of structural bridges. Vertical collaboration in a network setting thereby facilitated the creation of the bridging form of social capital within the project.

Some of the company representatives described the other companies in the Firsam project as “stuck in the old mindset” and thereby unable to understand the value of vertical collaboration. One respondent described how some of the other companies in Firsam failed to modernize their manufacturing process: “When you get a tender you must have a systematic way of thinking from the outset and all the way towards establishing continuous production. That also includes when you introduce new versions of that initial product, or the development of the initial product and maintenance (...) Are they still stuck in the old way of thinking, in the mindset of doing traditional manufacturing? I think most of them are stuck in the old mindset”. Another respondent had a similar view: “If you added a company, maybe just as a consulting firm, that had knowledge in business development, then you might find a way in with to tie the whole project together. But just to say “we are really good at manufacturing” and then roll up your sleeves and sit back – I do not believe in that at all”. The quotes indicate that doing what one respondent described as “traditional manufacturing” without modernizing the methods and without having a clear market focus would not be fruitful in the long run. This notion seems very similar to the realization that the network management wished to impose on the companies involved in the Firsam project, the realization that a company must offer “all-encompassing solutions or components” and not just “drill four holes into some piece of metal”.

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11. Analyzing the effect of the network on a regional level

11.1 Causing a change in the socio-economic milieu

The interviewed representatives all described the prevailing notion of a dependence-oriented culture that affected the business milieu in Söderhamn. The Firsam project also seemed to create a change in the business milieu in the region of Söderhamn as a whole, which some representatives described.

The representatives of the network management group expressed the prevailing attitude of the companies in Söderhamn. This attitude was described as the main obstacle to a successful network venture and also the thing that they would most want to change in the Firsam project.

Yes, these are two completely different worlds, and two completely different ways of living, somehow. When you talk about the “dependence-oriented culture” you must mention these big employers, Ericsson, the air force base (F15) and the pulp mill, or whatever it was. It smelled like crap at the coastline, from the pulp mill, and people worked there all their life, and so did their children. My neighbor back in Söderhamn, he told me that in the early 1900s they had a pulp mill up there, maybe it was Stora Enso something. They had their own graveyard, so even after you were dead you were buried at the company’s own graveyard. This mentality is still present. When people started to talk about this aviation school in the beginning of 2000, I said that there will be no aviation school! It was interesting to see when these articles started to appear in the local paper, saying “Now the aviation school is on its way”. They appeared every sixth month or so for 2 or 3 years. Every time they appeared everybody made a sigh of relief: “We do not have to do anything, there are 2 000 jobs in the pipeline”. Oh, such a relief! At the same time the tire factory in Gislaved was closed down. That was major news, 1 000 jobs were lost. But that problem got solved somehow. When someone started to do some research about this they found that all the people that were laid off in Gislaved were employed by small local companies in the matter of a few months, or they started their own business after they all met at church on the following Sundays. But not in Söderhamn, it is rooted very deeply. (…) We met this sentiment in the project, and it is still around, hopefully we managed to weaken this sentiment at least a bit.

(MG 1, 2010)

It is easy to despair when you try to get all these different companies together; you must do as we did and laugh about the whole thing once in a while. Down in Småland where everybody goes to church and has coffee together afterwards, all the business deals are done between 3 and 4 o’clock. It was mandatory to come to church, and to attend the coffee break afterwards, and to do business there. They all sit together and relax, so they get time to talk to each other. You do not have this great threshold that the local culture imposes. It is not the “I can do it all by myself” dependence-oriented culture. That culture is engraved in the walls around here. It is not so set in stone in other places around Sweden as it is here, and it affected this project as well. You do not have to go further than to Alvesta to see that there is a completely different attitude towards working together with other companies. In Söderhamn this is very difficult. I am currently trying to call up trading companies and schedule meetings, and it is the same old response. I get aggravated at the response: “No, I do not want to, no, I do not dare”; “Is there a charge involved?”; “No, network, no, collaboration”; “Can you come over and tell us about yourself, what you are doing”; “No!” (Imitates a phone being hanged up). This is engraved in the walls up there. So, obviously it is still present even if we tried to fight it all the way.

(MG 1, 2010)

The companies interviewed seemed to share the notion of the network management group regarding the dependence-oriented culture and Söderhamn. They also described how the Firsam project has changed the prevalent attitude in the region.
Well… I had this guy employed in a project financed by the EU; he looked at different logistics solutions to rationalize the companies in Söderhamn. We are not just talking about freight costs, but also the use of different cutting and welding equipment and enamel equipment. Through this research we could see that some companies in Söderhamn had abundant resources in welding and others in different kinds of enamel equipment. Then we tried to put these companies together, to create some sort of Gnosjö spirit among the companies. But it is very easy to say that “now we are going to create a Gnosjö spirit” and it is very difficult to make it so. There is a very special and old culture in Söderhamn, so to speak. I do not think that Söderhamn is unique in that regard, it is called dependence-oriented culture. You ogle at your neighbor him with some of it”. That is some sort of thinking “all right, now he got that order, ok, something will probably spill over onto me, I can help and think “damn it, he took that order. I am going to show him, I am going to beat him next year,” instead of thinking “all right, now he got that order, ok, something will probably spill over onto me, I can help him with some of it”. That is some sort of Gnosjö spirit, or as you will find in Edsbyn and all the places where the non-conformist church is prevalent. Well, I think that if you look at these places were the non-conformist churches are present, like Edsbyn, Örnsköldsvik up north and down south you got the whole of Småland, they have a different outlook on things, another outlook on your fellow man. Here it is all about the dependence-oriented culture; everybody is kept in individual boxes. “I will beat that damn neighbor on the other side of the street” instead of helping him. It is some sort of fundamental state of mind that is lacking in order to make this type of collaboration work. Söderhamn has an old history of being an open industrial community, so to speak. You have two or three big employers that catered for their employees from cradle to grave. That was your social insurance back in the old days. The mill took care of you; you were an errand boy. You started out as an errand boy for the mill. You raked leaves during the summers, and all that other stuff you could do after school. After that you became employed fulltime, they did not have welfare back then, so the mill took you in. (…). This mindset probably affected the project we had back then, and it probably affected the Firsam project.

(N 1, 2010)

The dependence-oriented culture is very strong here in Söderhamn. I think that the Jante law probably has its stronghold here in Söderhamn. No, I do not think that it affected this project more that it affects everything else in this region. That said I have been running companies here for over 25 years. I started and built my business without any employees, at home in my garage, and had 170 employees at its zenith. If I look back on that journey I can conclude that I would have had it a lot easier, and I would probably have come a lot further, if I was born in another town. So, obviously it affects everything that happens here in Söderhamn. It is harder to get by here. You cannot get hold of the right collaboration partners. You cannot get hold of the right competence to hire. So, it affects everything here in Söderhamn and so also this project. If we were to run this project in another town there might have been a company that was really good at business development and marketing. The effect it had on the project showed itself in all the companies looking more or less the same; they were really good at manufacturing. So indirectly, it had an effect, but not directly in the project.

(EC 1, 2010)

Yes, I have been pondering about this for a long time. I have been thinking, many people around Sweden have been wondering why are they so successful in the Gnosjö region. I have worked in many businesses in Småland, both larger and smaller, and I have asked myself the same thing. They have succeeded in creating an openness that I think is lacking in many other places. They say: “Ok, I cannot take on the whole of this project by myself. Let’s produce this jointly and then add a reduced price and distribute the money between us”. I wonder how they succeed in creating such projects. Of course, it can be because in Söderhamn, we have this dependence-oriented culture. I think it is a lot harder to get things working in areas like this, with people with such frame of mind. I am positive that this culture got something to do with it. I do not know that many people from Småland, but obviously they are quite different from us. I think that Firsam has helped in dispersing this culture, but it is still very much present.

(EC 1, 2010)

We do not have the entire key to the project at hand, but I think that Firsam was a fantastic project when it started. Then maybe we did not get everything out of the project that we expected, it did not become that big magnet that we wanted it to be, that it would draw everybody together. At least we got something to gather around. We had something to work on that spurred some new ideas and new trail of thoughts. You need someone that stands on the barricades, raises the banner and chants “follow me!” We have seen that this creates some good vibes in the community, so hopefully this will improve the business climate in the region. We have also seen that it has been hard with the economic recession in the world and that has obviously had a negative influence on the Firsam project and on Söderhamn as a whole. It surly has not been an easy and straight forward project.

(N 1, 2010)
Firsam was a project on a completely different level. I think it would have been needed a completely different organization in order to get everything out of the project. The dependence-oriented culture for instance, this “now I am going to steal the business from my neighbor”, I think that there are good indications showing that this mentality has disappeared, because the local business has started to reach out and stopped in catering solely to the local mills. When you start to get customers from other areas the local dependence culture starts to disappear. It is not working anymore, you do not have that individual contact with the customers anymore. You must work on your competence, your equipment that you hold, you must keep yourself up-to-date. I think this old generation has died out, it is in the past. The dependence-oriented culture disappeared with that generation. I do not believe in it any more. Projects like Firsam are a telling sign of this change, I think. I think this dependence-oriented culture is based on an old scurrilous portrait of areas such as Söderhamn. You might call it dependence-oriented culture, but it might just be old fashioned jealousy. When you have a room full of welders then maybe 70 % of them are not interested in the business side of things, and not that motivated. They do not realize the work that is involved in starting your own business, and the price that you pay, the risk you take. It is the same thing wherever you are, all over the world, you cannot call that dependence-oriented culture. It is the whole of the Jante law that needs to be abolished. (N 2, 2010)

If you work actively with business intelligence (in Firsam) then you will find out what is happening out there. Then you can say “can you tag along to see him as well, because he has got that thing going, then you can attract this and that” then you say “of course” and that is how it all starts. If you are just working statically with the same customers all the time, then you will not benefit from such collaboration. If you are working on counteracting this dependence-oriented culture, you must work on finding new markets and customers, because that is the right way to go. (MC 3, 2010)

In Firsam, it has been a very successful leadership with Arild in the management. The positive effects I think lies in the business cultures of the involved companies. It has become a better business climate; Firsam has affected the business climate of Söderhamn in a positive manner. I cannot say that I have any specific examples that I can give you, it is more of a general feeling I get from talking to the business owners about different collaboration projects. The Firsam project has surely affected the business climate and it has become more open. (N 1, 2010)

11.2 Analysis out of the aspect of the bridging and bonding form of social capital

A respondent representing the network management group illustrated the current socio-economic milieu in Söderhamn by comparing Söderhamn with the municipality of Gislaved. The employment rate in Gislaved recovered quickly after the temporary setback the region faced following the closure of a major employer. The inhabitants of Söderhamn on the other hand expected the solution to the employment issue to be solved by the establishment of a government funded employer in the municipality. There were not enough small businesses and entrepreneurs to hire the laid off work force in Söderhamn, while in Gislaved there were many small businesses to employ these workers. The lack of entrepreneurial spirit in Söderhamn was thereafter mentioned by the respondent as one of the things that the Firsam project had tried to change. The respondent said: “When they started to do some research about this they found that all the people that were laid off in Gislaved were employed by small local companies in a few months, or they started their own business after they all met at church on the following Sundays. But not up in Söderhamn, there another attitude is rooted very deeply. (...) We met this sentiment in the project, and it is still around, hopefully we managed to weaken this sentiment at least a bit”. The way in which the respondent was reasoning regarding the difference in development between Söderhamn and Gislaved was very similar to the findings that Isaksson (2008) presents in his report to the Swedish globalization council (Globaliseringsrådet). The difference in strategy undertaken by regional politicians in Gislaved and Söderhamn therefore seems to be supported by the respondent’s statements. According to Isaksson (2008) the strategy undertaken by Gislaved municipality proved to be more effective, and was a direct result of the local social structure and social capital pre-
valent in the municipality. It therefore seems that the representative of the network management group had an idea of the cultural differences between the two municipalities and believed the culture of Gis-

laved to be more productive, just as the findings presented by Isaksson show. The Firsam project is therefore portrayed by the respondent as a counterbalance to this culture and its effect on the local business climate.

Another respondent representing the network management compares Söderhamn to regions in Småland and claims: “You do not have this great threshold that the local culture imposes. It is not the “I can do it all by myself” dependence culture. That culture is engraved in the walls around here (…) So, obviously it is still present even if we tried to fight it all the way”. This quote indicates that the region of Söderhamn has an “I can do it all by myself” culture which makes entrepreneurial activities harder to undertake. The respondent thereby connects the notion of “I can do it all by myself” with the dependence-oriented culture. This notion seems to be opposed to the definition of dependence-oriented culture put forward by Borgström as “a heritage of a collective spirit that hinders individualistic initiatives” (Borgström 1996:57). However, the “collective spirit” can also be seen as a cause for bonding social capital in the form of what Molina-Morales et al (2009) call over-embeddedness, and could therefore be connected to the notion of dependence-oriented culture. The unwillingness to create network ties outside of one’s own social context created by over-embeddedness might create a notion of “I can do it all by myself” in the eyes of actors outside of this social context. The respondent’s account of the unwillingness of the inhabitants of Söderhamn to collaborate with others might therefore be an indication of over-embeddedness within the local social structure. The respondent representing the network management group believed that the Firsam project had fought this culture of “I can do it all by myself”, although it is still present. It therefore seems that the network management implicitly believed that there is over-embeddedness within the social structure of Söderhamn and that this structure has had an impact on the business culture of the region. The network management also claimed that the Firsam project tried to change this over-embeddedness by exercising its influence on the companies involved in the project.

The respondents representing the companies in the Firsam project also expressed the belief that the dependence-oriented culture exists and affects the business climate in Söderhamn. A respondent stated that he joined previous projects in order to create what he calls the “Gnosjö spirit” in Söderhamn. This “spirit” is often viewed as the antithesis of the dependence-oriented culture and is named after a municipality in the region of Småland. There are many successful small businesses in this region and there is said to be an entrepreneurial climate there. The respondent stated: “Then we tried to put these companies together, to create some sort of Gnosjö spirit among the companies. But it is very easy to say that “now we are going to create a Gnosjö spirit” and it is very difficult to make it so. There is a very special and old culture in Söderhamn, so to speak. I do not think that Söderhamn is unique in that regard. It is called dependence-oriented culture”. The dependence-oriented culture that is attributed to Söderhamn is perceived as a hindrance to the development of a “Gnosjö spirit” and a small business and entrepreneurial culture. The respondent’s statement describes Borgström’s (1996) notion that the dependence culture is defined by “a heritage of a collective spirit that hinders individualistic initiative”.

A respondent representing a company from the Firsam project claimed: “Söderhamn has an old history of being an open industrial community, so to speak. You have two or three big employers that have catered to their employees from cradle to grave. (…) this mindset probably affected the project we had back then, and it probably affected the Firsam project”. This statement resembles Lindberg’s notion that “Söderhamn as a region is the typical example of an industrial community situated in a peripheral region” (Lindberg 2002:37). The respondent’s statement reflects the notion that the history of the region is connected to the development of the dependence-oriented culture. Lindberg also writes that “the political culture and work climate between the workforce and the capital was created through the industrial community’s special conditions” in Söderhamn, thereby indicating a similar view to the respondent, pointing to the close connection between the employer and the employee that created the business culture within the region. The respondent expressed the idea that the history of the region affects the present and therefore also affected the Firsam project. The respondent illustrated this effect by pointing out that companies in Söderhamn tend to “ogle at your neighbor and think “damn it, he
took that order” instead of thinking “alright, now he got that order, ok, something will probably spill over onto me, I can help him with some of it”. This again resembles the connection that Molina-Morales et al (2009) makes between over-embeddedness and the tendency to refrain from making new connections with actors outside of one’s own social context. Söderhamn’s history therefore seems to impose a climate which makes strategic networking like the Firsam project difficult. Another respondent made a similar remark regarding the impact of the dependence-oriented culture on the Firsam project. The respondent stated: “Of course, it can be because in Söderhamn, we have this dependence-oriented culture. I think it is a lot harder to get things working in areas like this, with people in such a frame of mind. I am positive that this culture got something to do with it”. This respondent also added: “I think that Firsam has helped in dispersing this culture, but it is still very much present”, thereby indicating that the culture is alive but Firsam worked as an antidote to this culture.

Most of the respondents talked about the dependence-oriented culture as a fact that holds a real influence over the business culture of Söderhamn. However one respondent noted: “I think this old generation has died out, it is in the past. The dependence-oriented culture disappeared with that generation. I do not believe in it any more”. The respondent based his statement upon a belief that he put like this: ”I think that there are good indications showing that this mentality has disappeared, because the local business has started to reach out and stopped catering solely to the local mills”. The respondent thereby indicated that the political and structural circumstances that created the dependence-oriented culture had changed and therefore the dependence-oriented culture had become obsolete. The changes in the structures of social life in Söderhamn have indeed changed within the last hundred years, but the majority of respondents thought that the remnants of this social structure survived as dependence-oriented culture even to this day. Interestingly, the last respondent’s statement also said that: “Project like Firsam is a telling sign of this change I think”. He therefore used the existence of the Firsam project as an example of the demise of the dependence-oriented culture. He also indicated that Firsam has attributes that oppose the attributes of the dependence-oriented culture. This indicates that Firsam acts as an antidote to the dependence-oriented culture, as intended by the network management group.

Another company representative expressed that he did not think that the dependence-oriented culture had affected collaboration within the Firsam project. The respondent claimed: “No, I do not think that it affected this project more than it affects everything else in this region. (...) The effect it had on the project manifested itself by the fact that all the companies looked more or less the same, they were really good at manufacturing. So indirectly, it had an effect, but not directly in the project”.

The respondent indicated that the dependence-oriented culture did not affect the collaboration between the companies but it affected the type of companies in the project. The respondent also stated: “If we were to run this project in another town there might have been a company that was really good at business development and marketing”. I interpret this quote as indicating that the heritage of being an industrial community affected the development of the individual companies to become more focused on manufacturing than on business development. The composition of the Firsam project was therefore indirectly affected by this heritage to predominantly include manufacturing companies.

The interviewed respondents evidently believed that the dependence-oriented culture exists in Söderhamn and that the intention of the network management was to counteract this culture. One of the respondents said: “You need someone that stands on the barricades, raises the banner and chants “follow me!” We have seen that this creates some good vibes in the community, so hopefully this will improve the business climate in the region”. This quote indicates that the mere attempt to create a project like Firsam might have had a positive impact on the business climate in the region. Introducing a different approach to business that might seem new to some of the involved participants and a role model that “stands on the barricades” alone might spur change. A catalyst may be needed to challenge the status quo and get the involved companies to question their existing frames of reference. One of the respondents mentioned: “If you are just working statically with the same customers all of the time, then you will not benefit from such collaboration. If you are working on counteracting this dependence culture, you must work on finding new markets and customers, because that is the right way to go”. This quote seems to signify the belief that the exposure of individual companies to a new environment changes and develops the companies thereby counteracts the dependence-oriented culture on a regional level. Exposing the companies to vertical collaboration might cause such a change.
Moreover, bringing companies with a less developed strategic networking approach together with companies with a more developed approach might improve the ability to work strategically with networking in some of the companies. The creation of strategic ties to actors outside of a company’s existing social context might in other words counteract the form of over-embeddedness that Molina-Morales et al (2009) describe. This connects making a change in the frame of reference of the individual company and the socio-economic milieu of the region.

A respondent said: “The positive effects I think lie in the business cultures of the involved companies. It has become a better business climate; Firsam has affected the business climate of Söderhamn in a positive manner”. The introduction of strategic networking to some of the companies in the Firsam project might encourage the use of strategic networking in future business ventures. This might in turn create a more open feeling of collaboration that will influence the dependence-oriented culture of the region in the long run. The respondent added to the previous statement: “It is more of a general feeling I get from talking to the business owners about different collaboration projects. The project (Firsam) has surely affected the business climate and it has become more open”.

The respondents talk about the dependence-oriented culture in the interviews undertaken in 2004 in a similar manner to the way they talk about the same concept in the interviews from 2010. The culture is still therefore very much alive in the minds of the respondents and still characterizes the region of Söderhamn. However, the respondents seem to refer to the Firsam project as an antidote to this culture, and a project that is built on values that are different from those usually attributed to the socio-economic context. The intent expressed by the network management group to weaken the impact of the dependence-oriented culture on the companies in the project thus seems to have been understood and appreciated by the companies.
12. Discussion

12.1 The network design

The socio-economic climate of the Söderhamn region is described by the respondents in a very similar manner to the way it is portrayed by previous research (Forsberg 1997, Bursell 1997, Borgström 1996). According to this literature the dependence-oriented culture is based upon a social context where few and very strong connections, both internally within the society and externally through customer contact, constitute a central feature of social capital (Hammar and Svensson 2000). The traits that characterize the dependence-oriented culture are easily compared to the bonding form of social capital since the connections between individuals there are also few in number and very strong. The region of Söderhamn can therefore be described as a region where the bonding form of social capital dominates the socio-economic climate. This context has consequently formed the prerequisites for networking and thereby influenced the design of the regional strategic network of Firsam.

Borgström characterizes the core of the dependence-oriented culture by defining it as “a heritage of a collective spirit that hinders individualistic initiative” (Borgström 1996:57). Entrepreneurial business development in the Söderhamn region is described as hindered by the dependence-oriented culture which has hampered regional growth and given the region a bad reputation among outsiders. This reputation and regional traits were described by the respondents as troublesome and created a sense of urgency for joining forces to change things. The bonding form of social capital has therefore created a common feeling of duty among the participating actors in the Firsam project to create change, in order to “save” the region. The shared view of the region’s socio-economic climate communicated by the few and strong connections that constitute the bonding form of social capital therefore created a goal, coalescing participants in the project.

The quantitative data collected in 2004 clearly portrays the relationships that existed between the participating actors prior to the formation of the Firsam project. As the network is composed of two opposing cliques, only a few connections between actors with high centrality keep the network structure together. The network clique with the highest modularity percentage I have chosen to call the MC group. This group displays homophily, the members having little experience of working strategically in networks and an autonomous attitude towards their production and developed know-how within the manufacturing field. This group’s inexperience in working strategically within networks explains why it has high modularity. Having many weak ties to other actors is not consistent with homophily.

The other network clique is called the EC group, since the companies within this group all have some sort of connection to the telecommunications company Ericsson. The companies in this group tend to view their production as more dependent on other actors through vertical collaboration. These companies show a more open attitude towards working strategically within networks. Their strategy uses a long-term collaborative stance in their customer relationships, and they develop intricate electrical components often in direct cooperation with their customers. Their main means of competition is not focused on price, as their long-term relationships are often based on the development of context-dependent knowledge.

The differences in business cultures and fields of know-how between these two groups of companies are understood and explicitly described by the respondents. The respondents portray the difference in corporate culture between these two groups as so significant that they are even noticeable on the individual level as inherent personality traits. Their outlooks on their businesses are so different that both the companies and the individuals employed might be described as originating from different social contexts. Bridging together these two groups was therefore described as a difficult task by the respondents.
The respondents seemed to understand that diversity of the network members was a prerequisite for the creation of vertical collaboration coherent with the idea of “from idea to the final customer in one chain”. Companies from different lines of business would be able to undertake different tasks in the product chain, turning the diversity of the involved actors into a positive trait. Some of the respondents seemed unable to grasp this concept, which might indicate a failure to understand the benefits of working strategically within networks and vertical collaboration. The failure to see these benefits might be a direct consequence of the dependence-oriented culture that enforces a focus upon few and strong ties in the social capital. Over-embeddedness (Molina-Morales et al 2009) in one’s own social context might create a lock-in effect (Grabher 1993, Uzzi 1997, Gargiulo and Benassi 2000, Parra-Requena et al 2009) that hinders actors from appreciating the value of strategic vertical collaboration. The bonding form of social capital prevalent in the region was therefore a hindrance to vertical collaboration within the Firsam project.

12.2 Network cooperation

Vertical collaboration is a prerequisite for putting into practice the notion of “from idea to the final customer in one chain” and thereby realizing the goal of the Firsam project. In order to facilitate such collaboration, meetings between the companies had to be arranged and an information flow had to be established between the actors. The network management group arranged both formal meetings where all the companies were asked to participate and less formal meetings where constellations of companies were formed to work on tenders and actual business cases.

Within the context of the informal meetings the network management group paired different companies together into novel constellations according to individual know-how. In this manner companies from different social contexts were brought together, establishing bridging connections between the actors. The network management group thereby performed the role of a technology broker in pairing together actors from different social contexts to facilitate information flow. Creation of novel connections in this way contributes to the generation of the bridging form of social capital since bridges between existing social contexts are being made (Putnam 2000).

The formal meetings illustrate how the network management group infused a sense of trust and togetherness among the participants within the Firsam project. This type of bonding activity is easy to connect with the creation of the bonding form of social capital. Putnam (1993) defines the bonding form of social capital as the creation of trust and common goals within a social context. However, I also link the bonding form of social capital with few and strong ties that make a group into a coherent unit (Coleman 1990). Since the Firsam regional strategic network consisted of two cliques or groups with separate social contexts, the connections made between them are “bridging” rather than “bonding” in nature. The meetings arranged in the Firsam project were therefore conducted in order to create a novel information flow between two separate groups, not to cement already existing network structures. The undertakings made in the Firsam regional strategic network therefore contributed to the bridging form of social capital although a sense of creating common trust, and goal coalescing also existed.

12.3 The cooperative attitude in the network

The marketing of the Firsam project towards external actors was believed to have been neglected by the network management group. The respondents representing the companies within the project felt that the management group lacked direction in its marketing ventures. The network management group described its marketing efforts as consisting of networking activities, such as visits to trade shows and establishing personal contacts with individuals from trade organizations and industry people. Many of the respondents representing the companies within the project came from a social context where few and very strong connections characterize the social capital (Hammar and Svensson 2000). These companies were consequently inexperienced in working strategically within networks.
The network management group described unwillingness from the companies’ side in participating in networking activities to connect the Firsam network to outside actors for marketing purposes. The inexperience of working with network activities in such a manner may therefore have led to criticism of the network management’s marketing ventures. The company representatives were probably expecting more traditional marketing strategies, such as advertising, and therefore mistook the absence of these strategies for a lack of marketing ventures altogether. The prevalent social context that the companies come from might have created a communication problem between the management group and some of the companies regarding the marketing ventures undertaken within the Firsam project.

The network management group meant that the Firsam project turned out to be more of a product oriented project than a project focused on making external connections. Some of the respondents attributed this focus to the history of the region and claimed that the companies in the region all tended to have a focus on production of goods rather than on marketing or business development. The major companies in the region had head offices that dealt with these issues which were usually located in other regions. Both the network management group and the participating companies had a natural focus on the production and manufacturing of goods and the marketing and business development was consequently described as being neglected. The dependence-oriented culture dictates a climate where few and very strong connections characterize the social capital, and the socio-economic climate is therefore less than nurturing for making external connections in the form of marketing ventures. The product oriented focus applied in the Firsam project can therefore be attributed to the bonding form of social capital prevalent in the region.

There was a widely expressed discontent towards the network management group’s inability to manage the different business projects undertaken within the Firsam project. One respondent representing the companies expressed that the network management should have been more active in the business projects resulting from the strategic network. The companies themselves said that they did not know enough about each other to be able to see the benefits of managing these projects. When previously unconnected actors in a network structure become connected, the actor that bridges the two different social contexts is referred to as a technology broker (Burt 1992). The technology broker manages the connection and makes sure that information travels along the bridging connection. As the controller of the information flow the technology broker is in a position of power within the network that might be used to generate revenue. In the case of Firsam the members of the management group took on the role of technology broker since they made new connections between the companies participating in the project. However, the management group did not have a direct financial interest in managing the information flow. This seemed to create role confusion where the companies expect the network management to manage the connections in the manner of a technology broker, and the network management believed this to be the role of the companies since the financial benefit was theirs to be made. The practical implication of vertical collaboration within a regional strategic network seems to resemble technology brokering without a specified broker.

The role confusion of not having a specified technology broker seems to have had a clear impact on the creation of trust among the companies in the Firsam project. Hargadon and Sutton (1997) claim that ideas from one group might solve the problems of another, but only if connections between existing solutions and problems can be made across the boundaries between them. Since there was no technology broker in the Firsam network the connection between the groups was not established. Dhanaraj and Parkhe (2006) claim that the technology broker must orchestrate these connections, otherwise the boundaries between the actors stop the information flow and network mobility cannot be reached. When the information flow within a network is hindered the benefits for the included actors in collaborating and working strategically within the network become unclear. This is exemplified in the case of Firsam by a widespread mistrust in the network’s appropriability. Fair sharing within a network context is founded on knowledge of what each actor “brings to the table” in the form of know-how and resources (Dhanaraj and Parkhe 2006). When the creation of such knowledge is hindered by low network mobility, trust inevitable suffers.

According to Dhanaraj and Parkhe (2006) network stability is dependent on network mobility and appropriability. In the case of Firsam the network project might appear stable since the companies that joined the project in 2004 had not left the network cooperation in 2010. However, there was no cost
involved in participation in the Firsam project, so even if the interest in participating in the project was diminishing the incentives for leaving the project were small. Furthermore, the collected data indicate that the cliques within the Firsam network remained. A cohesive network had not been created and the network stability was therefore brought into question. Considering the goal set for Firsam to bring together the two preexisting groups into a cohesive network, these cliques tell of the failure to reach such cohesiveness. It seems that the abundance of the bonding form of social capital prevalent in the region set the boundaries for network mobility too high. The ensuing lack of network appropriability therefore kept the two groups from merging and bridging connections between the two social contexts were hindered.

12.4 The effects of the regional strategic network of Firsam

All the respondents participating in the Firsam regional strategic network agreed that less concrete business was generated from the project than expected and that not enough practical business projects were successfully completed within the network structure. A prerequisite for the notion of “from idea to the final customer in one chain” to be realized and vertical collaboration to occur is that the manufacturing companies and the design companies merge into a cohesive network. It is evident from the quantitative data that the two groups MC and EC were two separate groups since their individual modularity (Moreno 1934) remained high. The EC group still represented the bulk of the design companies and the MC group represented the manufacturing companies, indicating that these two functions in the product chain had not been brought together.

Cliques form in a network when homophily brings individual actors together in coalitions (Fowler et al 2011, Alt and Lieberman 2010). This homophily keeps individuals from connecting with other actors in the network structure. It is evident that the two groups within the Firsam network structure had common traits within their separate groups that created a rift between these two cliques. One of the groups even described a power struggle between the groups. The MC group felt undervalued since the network management had prior connections to the Ericsson Company. A feeling that the Firsam project was governed to support the companies previously connected to the now closed Ericsson factory was expressed. This notion of “us against them” that might hinder network cohesion can easily be interpreted in terms of a social context where few and very strong connections characterize the social capital. The influence of the dependence-oriented culture on the regional socio-economic climate became evident. The existing socio-economic climate in the Söderhamn region imposed an abundance of the bonding form of social capital that reinforced existing network structures. The boundaries hindering the setting up of an information flow between the two separate groups were too high. Vertical collaboration could not take place and the business ventures undertaken within the network structure therefore failed.

Although the creation of business opportunities in the Firsam project was disappointing, the project was still held by the respondents as one of the most successful projects for regional growth undertaken in the municipality. The majority of the respondents found it difficult to articulate the reasons for their positive feelings towards the project. A respondent representing the network management group assessed the development of the companies within Firsam as follows: “What they got is a new frame of mind and a developed way of thinking”. This type of learning process might be hard to articulate explicitly but the assessments by the respondents of the Firsam project seem to portray such a development.

Prior to the formation of the Firsam project some of the respondents talked about their production as autonomous and not dependent on actors outside of their own organization. Their experience of working strategically within network contexts was limited to horizontal collaborations, joint purchasing of raw material and administration of trainee programs. The creation of strategic ties between themselves and companies from other areas of business and social contexts seemed foreign to them. The notion of vertical collaboration that the Firsam project presented in the form of “from idea to the final customer in one chain” introduced this way of thinking among the participating companies. Some of the participating companies expressed greater appreciation for vertical collaboration during the in-
terviews held in 2010 compared to 2004, which indicates that a less autonomous view of their production might constitute the “new frame of mind and a developed way of thinking” previously mentioned. The Firsam project encouraged the companies to lift the gaze from their own segment in the product chain to appreciate the total network that forms a product’s final value. This view makes it possible to bridge gaps in the network and reshape the network structure. Bridging such gaps is consistent with development of the bridging form of social capital. In other words, the Firsam regional strategic network facilitated the creation of the bridging form of social capital among the participating companies.

The bridging activities within the Firsam project connected companies from different social contexts and enabled novel information to travel within the network. The information flow was not enough to create network appropriability in order to undertake joint business ventures, but was enough to spur a learning process among the participating companies. A respondent representing a company from the MC group claimed that if the collaboration undertaken in Firsam would have been done in the strategic network Verkstadscentrum “the welders would have met with the welders, the engineers would have met the engineers and the managers would have met the managers”. The respondent further stated: “By not doing this I think that we learned a lot more from each other” The respondent claimed that the meetings between individuals from different social contexts created access to novel information. The introduction of novel information into a network structure is, according to Hansen (1999), a benefit associated with the bridging form of social capital. The creation of weak ties outside of an actor’s normal social context makes novel information available to that actor and consequently to the actors connected to him. With the introduction of vertical collaboration the Firsam project therefore facilitated information flows associated with the bridging form of social capital.

All respondents described the dependence-oriented culture in a similar way and claimed that this culture still lived on in the region of Söderhamn. This culture was also described as an obstacle in the design of the regional strategic network of Firsam. However, some respondents expressed that the Firsam project worked as a counterbalance to this culture. The existence of a project like the Firsam project was described by a respondent as a telling sign of the loosening of the influence of this culture - similar projects would not have been conceivable if the dependence-oriented culture would have been as strong as before. The Firsam project is thereby seen as a project that has served to loosen the over-embeddedness and lock-ins imposed by the local dependence-oriented culture. The respondents described the socio-economic climate of the Söderhamn region as more “open” than before, indicating that a more open attitude towards creating new network ties and reshaping existing network structures had taken hold.
13. Conclusion

13.1 Effects of social capital in the Firsam case

In the design of a regional strategic network the network management group is always faced with a challenging paradox. The management group can either focus on reinforcing existing network structures by strengthening the bonding form of social capital within the network, or it can focus on facilitating bridging connections between previously unconnected actors and thereby contribute to the bridging form of social capital. The Firsam regional strategic network proves to be a case of the latter of these two possibilities.

The companies included in the Firsam project are all situated in the municipality of Söderhamn. The socio-economic climate in this region is dominated by the dependence-oriented culture. This culture entails a social context dominated by few and very strong connections, both internally within the society and externally through customer contact. The existing network structures are therefore rigid and not easily changed. Rigid network structures might hamper innovative regional development and the formation of new weak ties since closed network structures might create over-embeddedness and organizational lock-ins. To further reinforce such network structures might therefore be considered counterproductive.

The management group in the Firsam network focused on creating an environment where companies from different social contexts could meet and form business ventures. The network management group thereby acted as a technology broker in forming bridging and weak ties that transcended structural holes in the existing regional network structure. However, the existing network structure was too rigid since the local socio-economic climate relied on the bonding form of social capital. The boundaries between the cliques in the network therefore became too high for new information flows. In addition, role confusion regarding who should serve as the technology broker in orchestrating the information flow became a problem.

The Firsam case is characteristic of a regional strategic network that tried to implement bridging activities in a socio-economic climate fashioned by the bonding form of social capital. The bonding form of social capital therefore served as a barrier to the project development. This resulted in many examples of the negative effects of the bonding form of social capital.

Achieving the positive effects of the bridging form of social capital was an important goal of the Firsam regional strategic network and for the network management group. Such effects are demonstrated empirically here.

The purpose of this thesis is to add a more social network inspired contribution to the discourse of the business network concept of regional strategic networks by focusing on the effects of the concept of social capital on a regional strategic network, and by portraying a nuanced empirically grounded picture of these effects. I have therefore described and analyzed the positive and negative effects that the bridging and bonding form of social capital might have in the context where a regional strategic network operates. These empirically grounded examples are illustrated in figure 11 which shows the positive and negative effects of bonding and bridging social capital in a regional strategic network that is focused on creating new connections and weak ties between its network members. The matrix shows the effects that were observed in the process of designing and developing the regional strategic network of Firsam. The difference between this matrix (figure 11) and the general matrix portraying effects of bridging and bonding social capital in figure 3 is that figure 11 is specific for the Firsam project. Many of the points highlighted in figure 11 are directly related to the points highlighted in figure 3, which shows previous research within the field. These points represent the case-specific effects of social capital that adds empirical backing to existing research. The other points displayed offer insights into the effects of social capital on strategic networks that have not been previously researched.
The finding that a regional strategic network can be seen as an attempt to create technological brokerage without having a specified broker is one of the new observations contributed by this thesis. The finding that the bonding form of social capital caused the regional strategic network to undertake a more introverted and product based focus is a new contribution to research in this area. This thesis therefore brings an empirically grounded contribution to support existing theories, as well as new insights for further study.

13.2 Research contributions and further research

According to Molina-Morales and Martínez-Fernández (2009) there is a lack of existing literature that explores the negative effects of social capital empirically. This thesis adds empirically grounded findings that give an indication of how the bridging and bonding form of social capital can affect the development and outcome of a regional strategic network. The thesis has a longitudinal approach and includes data describing the network project’s design, implementation and completion. This thesis consequently provides a thorough empirical description of social capital and its effects on regional strategic networks. The effects of social capital are dependent on the regional socio-economic climate, and this study explores a regional strategic network in a region dominated by the bonding form of social capital. This thesis consequently focuses on the negative effects of the bonding form of social capital and the positive effects of the bridging form of social capital. This because the thesis describes an example of a regional strategic network in which the network management focused on facilitating bridging connections and weak ties between previously unconnected actors in a region dominated by the bonding form of social capital.
Aspects of the paradox of either strengthening or diluting existing network structures in a regional strategic network are portrayed in a matrix (figure 11). These aspects depict possible positive and negative outcomes of applying a focus on creating weak ties and novel network connections. However, its managerial implications on the design and implementation of a regional strategic network are yet to be fully investigated. Further exploration of the mutual relations between these aspects would shed light on the strategic implications of the findings. The formation of a model highlighting these mutual relations would make my research findings a more suitable tool for strategic analysis. The practical implications of designing and implementing a regional strategic network from the aspects of bridging and bonding forms of social capital would become more visible in a cause and effect model. Presenting the findings that the case study conducted in this thesis has generated would therefore be the first step towards designing a strategically useful model based on these findings.

This thesis provides a thorough description of the design and implementation of a regional strategic network and therefore provides empirically grounded data and analysis thereof. The findings derived from this data should be analyzed under a more comprehensive theoretical framework to further develop the managerial implications that they will impose. Further increasing the level of theoretical abstraction will enable the presented comprehensive empirical findings to be related to previous research investigating management of network ventures. A somewhat more normative contribution to the field of regional strategic network research would then be generated.

The findings presented within this thesis are predominantly focused on the relationships built between the member companies within a regional strategic network. The effects that the bonding and bridging forms of social capital might impose on the relationship between the project management group and the member companies is left largely unproblematised. Further investigation of such aspects might be of use in making the managerial implications of the findings clearer. The analysis of the dynamics created within a regional strategic network may benefit from incorporating all the nuances in the relationships that are formed. Future analysis of this aspect in the material presented here might therefore also be useful.

Studying a single case can provide the researcher with insights into how the social capital has affected the regional strategic network in that one context. However, as social capital is a context-related concept it is not possible to draw generic conclusions based on a single case. Nevertheless, there are lessons to be learned for all participants even from a single case. It is advisable to make comparative case studies to broaden the empirical selection to enable more generic conclusions to be drawn. John Stuart Mill (1882) argues that in order for generic conclusions to be drawn from case studies the researcher must follow either the logic of “method of agreement” or “method of difference”. A researcher must either find a comparative case study that resembles the first case in one or few significant variables, or the researcher must find a case that show opposite attributes in these variables.

This thesis is an example of a regional strategic network in which the network management focused on facilitating bridging connections between previously unconnected actors in a region dominated by the bonding form of social capital. I define these two variables as the most significant attributes to take into consideration when choosing a comparative case study. Additional case studies where the socio-economic context is either similar or opposing to the studied case would be considered complementary. In addition, a comparative study including cases where the network management put a focus either on building bridging connections or on supporting existent network structures might be advisable. Complementary studies to investigate the concept of social capital in the context of a regional strategic network can also focus on other variables. The dynamics between companies with different individual sizes and resources is a variable that is not included in this thesis. The aspect of varying business fields can be put into focus by investigating regional strategic networks operating in a different field of business.

The concepts of commitment and trust have not been thoroughly theorized in this thesis. There is a large body of research focusing on these issues alone and bringing the concept of the bridging and bonding forms of social capital into this research could make a significant contribution to the field. Augmenting my study with a more theoretically developed discussion of these concepts would enable me to put my empirical findings into a more comprehensive theoretical framework.
Case studies where the focus is put upon the collection of qualitative data can generate hypotheses that appear to be supported in the specific case. Research focusing on the collection of quantitative data might be constructed based upon these hypotheses. Quantitative data can be used to dissect the validity of the hypotheses formed in a specific case setting. It may be beneficial to choose one or a few of the effects that have been observed and analyzed in this thesis and investigate them in a quantitative research study. Such research will further investigate the validity of the findings presented in this study and improve the case for drawing more generic conclusions.
References


Appendix 1

Questionnaire 2010

Hur mycket arbetar du med de andra företagen i affärsfrågor? (How often do you work with these companies on business related issues?)

1 = I princip aldrig (practically never)
2 = Någon enstaka gång (on single occasions)
3 = Flera gånger men under en lång tid (several times spread over a long time period)
4 = Flera gånger per år (several times a year)
5 = Vi har regelbundna affärsförbindelser (we have regular business contacts)

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Appendix 2
Questionnaire 2004

Hur mycket arbetar du med de andra företagen i affärsfrågor?
(How often do you work with these companies on business related issues?)

1 = I princip aldrig (practically never)
2 = Någon enstaka gång (on single occasions)
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Appendix 3

List of questions
Interviews in 2010

What are the main differences between your company today and back in 2004 when the Firsam project was initiated? Your company history…

What are your initial thoughts and associations when I say “Firsam”?

What is your view upon the development of the Firsam project? What aspects have been performed satisfactory and which aspects have been handled badly?

The selection of companies within the Firsam network, has it been a good selection?
   • Do you have anything in common, or not?
   • Have you been able to cooperate?
   • Did you grow to trust each other?
   • Should the selection of companies have been undertaken in a different manner?

What changes has the Firsam project incurred?
   • for yourself
   • for your company
   • for the involved companies
   • for the region

Which are the most important lessons that you think can be drawn from the Firsam project?

Can you mention and describe any concrete business cases undertaken within the Firsam project?

Do you have anything more you wish to add concerning the Firsam project, any concluding thoughts?