

Regional strategic networks - the impact of initial conditions and activities on outcomes

Edith Andréßen
Department of Social Science
Mid Sweden University
Phone +46 60148680
edith.andresen@miun.se

Heléne Lundberg
Department of Social Science
Mid Sweden University
Phone +46 60148571
helene.lundberg@miun.se

Tommy Roxenhall
Department of Social Science
Mid Sweden University
Phone +46 60148689
tommy.roxenhall@miun.se

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Abstract

Establishment of networks including the academy, business actors, and local government representatives has become a prevalent international, national, and sub-national strategy for supporting business competitiveness and regional development. This paper aims at developing our knowledge of the impact of initial conditions and network activities on RSN management and outcomes. It is shown that “organic” relationships, regarded as important by the actors themselves, may develop even in “created” settings and that RSN initiatives thus will change the business network. The results are, however, not directed, nor foreseen. They develop as a result of the provision of opportunities for interaction and the members’ own decisions to act on opportunities they come to recognize. The outcomes are thus “organic” but the probability that relationships will develop between actors in a particular region is increased by means of RSNs.

Introduction

The importance of relationships and networks for business development is now widely acknowledged (Castells, 1996, McDonald et al., 2006, Bessant, 1995, Rosenfeld, 1996, Håkansson and Snehota, 1989, Håkansson et al., 2004, IMP Group, 2002). As a result, establishment of networks including the academy, business actors, and government has become a prevalent

international, national, and sub-national strategy for supporting business competitiveness and regional development (Waluszewski, 2005, European Commission, 2002, ISA et al., 2004). Political decisionmakers and policymakers advocate and use these arrangements as a tool for addressing regional development issues (Huggins, 2001, Neergaard, 2000, Rosenfeld, 1996, European Commission, 2002) and the political support is often accompanied by *Finance* support. Significant sums are invested and expectations are high on behalf of programme sponsors and official institutions.

Their efficacy is, however, disputed (Huggins, 2001, McDonald et al., 2006, Curran, 2000, Chell and Baines, 2000) and these “created” networks have also been questioned by members of the IMP community who argue that a presence of network-like structures not necessarily means that network processes occur, that the business value of geographical proximity has been exaggerated, and that attempts to run a network will turn it into a hierarchy (Waluszewski, 2006, Håkansson et al., 2002). The number of studies within the IMP-approach is however limited and this paper aims to highlight some important issues and stimulate further research.

The object of study is denoted Regional Strategic Networks, RSNs, and, in line with Jarillo’s (1988) definition of strategic networks, we define RSNs as encompassing three or more organizations that remain independent but interact under a common objective or purpose. Our addition to the RSN definition and what separates RSNs from the strategic networks discussed by most researchers, is that RSNs are arranged for regional development purposes and thus have a regional delimitation. Furthermore, RSNs are administrated by a hub unit that usually has no business relationships with the other network participants and the members are very loosely linked to begin with.

Designing a setting that is to develop into a network structure with certain outcomes is undoubtedly a complex and challenging task. There is no blueprint at hand on how to proceed as each situation and regional context is unique. Furthermore, managing RSNs has proven a highly qualified and challenging assignment. The mission is complex and demanding as, for instance, structural aspects like complementarity or similarity among member firms is likely to affect network processes and lead to different outcomes (Human and Provan, 1997, Malecki and Tootle, 1997).

RSN are coordinated by a “hub” (Jarillo, 1988) with administrative and governing duties to perform and project related goals to fulfill, but the hub lacks authority to demand actions from the member organizations which remain independent entities. These networks are not formal: they are not based on contracts between the actors, at least not to begin with. Furthermore, initially, few investments are made by the participants in the networks and their level of commitment when joining the network is in many cases fairly low. The hub is thus initially the key to interaction and relationship development among the participants and the hub’s perspective will thus be of importance for this paper.

Considering these challenges, the amounts of state aid dedicated to RSN measures, and the limited number of studies, evaluations, and international comparisons available so far, it is imperative to further study the structure, organisation and management of RSNs. Further studies have been asked for: of the impact of structural factors on network outcomes (Human and Provan, 1997, Malecki and Tootle, 1997) as well as of network processes and the causes of different RSN outcomes (Huggins, 2000, Bessant, 1995). This paper addresses this need and aims at developing our knowledge of the impact of initial conditions and network activities on RSN management and outcome. The chosen method is a longitudinal case study of two Swedish RSNs.

The subsequent section will describe factors related to initial conditions, activities and outcomes from a theoretical point of view. Thereafter, the methodological approach and empirical findings from two RSNs are presented and summarized as positions. Finally conclusions and managerial implications are presented.

Characteristics of Regional Strategic Networks

RSNs are inspired by business networks, “a set of connected actors that perform different types of business activities in interaction with each other” (Holmlund and Törnroos, 1997, p. 304) but also by the planned and formalized character of strategic networks, an umbrella term used for enduring interorganizational ties of strategic significance to the firms concerned (Jarillo, 1988, Gulati et al., 2000, Gulati and Gargiulo, 1999). RSN differ, however, from such networks in some important aspects: the network structure, the short-term character, the geographical delimitation, and the initially low level of involvement and commitment.

For RSNs, the network structure initially is a vision rather than a starting point. In many cases no, or only a few, member organizations participate in initiating and designing the network - the rest are only invited at a later stage. In order to promote and sustain active participation and relationship development among the participants, and drive processes towards the goals and visions that caused the network initiation, a hub (Jarillo, 1988) is usually appointed. The hub-function can be performed by a network member but is often delegated to one or a few individuals in a specially designated unit.

Resources in a RSN context include state aid as well as the network participants' monetary and manpower contributions. The public resource base of an RSN is often created prior to the formation of the network. The RSN networks have a project character with activity-plans and goals. The goals are formulated in order to secure financing for a certain period of time and are thus often adjusted to a given standard set by fund providers, for example EU Objective 1¹, who often require evaluations and thus assume the existence of measurable aims. Specified goals at the start furthermore render possible a strategic choice of member firms.

Not all invited choose to join however, and even if they do their level of commitment and their degree of participation in network meetings may be low. A common counter argument for participation is lack of time (Huggins, 2001). To keep up the members' interest in participation, the hub thus has to suggest and broker goals that motivate participation and are reachable within a reasonable period of time.

Theories on regional strategic networks

Research on strategic networks can be divided into categories. One focuses on the results of networking (Ager and Red, 2000), another concerns research defining the processes created by collaboration and why collaboration has evolved (Nilsson and Nilsson, 1992). A third category (Human and Provan, 1997) investigates structural factors and antecedents that characterize strategic networks, while a fourth category (Brito and Araujo, 1993) studies the relationships between the network actors and how these relationships evolve. A fifth category (Sharma, 1998) focuses on findings underlying conditions and requisites for strategic interaction.

Important *initial conditions* are: goals and expectations, complementary/competitive members (Human and Provan, 1997), number of companies (Brito and Araujo, 1993), company sizes and roles (Gailbraith 1982, IM-gruppen 2003), and relationships and commitment (Morgan and Hunt 1994).

¹ In Sweden, results from projects financed by EU Objective 1 are measured in terms of: new firms and new employment opportunities generated by the project, the number of participating women and men, and so forth.

The initial conditions are assumed to affect *activities* which in turn affect *outcomes*. There are social activities, promoting exchange of information and know-how, and business development activities.

A regional network operation can be divided into phases. Initially there is a *design phase* that resembles an “action-related entrepreneurial phase” defined by Maaninen-Olsson (2007) as an early phase with significant influence on project initiation and operation. During this phase, goalsetting and financing are primer activities. This phase often takes place prior to the formal organizing of the RSN. The design phase is followed by an *operational phase*. At this time, a hub has been appointed and members recruited. The operational phase covers the structuring of the RSN organization and the network activities. The operational phase can be interrupted by one or several *transitional phases* in which the RSN seeks a new direction, new funding, or new members.

Structural conditions are initially set in the design phase but often change during later phases as some members choose to leave and new ones join.

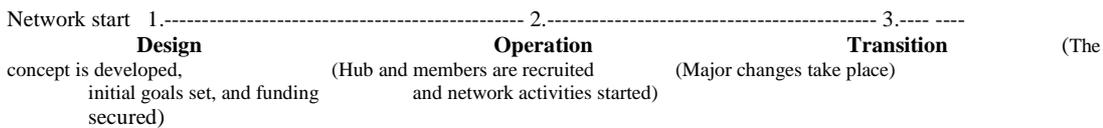


Figure 1:1 RSN phases.

Initial conditions

Goals and expectations

Goals and goal-formation processes are generally regarded as powerful governing tools in organizations as joint goal-setting renders possible taking of responsibility and a development of shared values and commitment among actors (Cyert and March, (1963)1992, Scott, 2003(1981)). In the design phase, goal-setting is, however, often made by other persons than those that later will participate in the network operation. In addition to the “official” goals of the RSN, the member companies and their representatives often have their own business related, as well as personal, expectations and reasons for participation. Consequently, there may be goals set at network start that are not shared by the participats. In that case, the goals set in the first phase will have to be revised jointly by the hub and the participants in order to fine-tune and amplify the network operation.

Collaboration in RSNs takes place within most areas of business: such as purchasing, production, marketing, R&D, IT, education and enrichment programs (Nilsson and Öberg, 2000, Roxenhall and Johanson, 2007).

Complementary and competitive settings

Complementarity in a network cooperation perspective, signifies vertical collaboration in which resources, capabilities, and activities of the network actors complement each other, or that each actor makes its particular contribution for the creation of a totality, as for example a product. Competition prevails when actors have similar resources and capabilities and perform similar activities and thus compete with one another to some extent. Many strategic networks consist of fairly similar, and therefore competitive, actors who still may cooperate to create an attractive product/service, or share the production of an order that otherwise would be too extensive for them.

Saxton (1997) states that a certain degree of similarity may smoothen interaction but that too much similarity will bring nothing novel to the relationship. This observation is further elaborated by Huggis (2000) who finds a success factor in member firms being alike, from the same industry, but not in competitive positions. Firms that have absorptive capacity (Cohen and Levinthal, 1990) due to similarities of business but are different enough to allow for a free flow of information and exchange of experiences within the group may thus constitute a favourable RSN setting.

Number of companies

Collaborative intentions are often the essence of strategic networks. However, with a large number of members, it becomes difficult to reach consensus, to collaborate, and to coordinate and organize the network's activities. Furthermore, as the number of actors increases, it becomes more difficult for each member to assess and evaluate its own contribution (Araujo and Brito, 1998).

The size of companies involved and the roles that they perform

Network members take on different roles that influence a network's activities and outcome (Gailbraith 1982, IM-gruppen 2003). These roles are often related to size. Nilsson and Nilsson (1992) claim that it is easier to collaborate in a group if large and resourceful companies are included as large companies often assume a leading position within a network due to their extensive resources and know-how. A number of RSN actor roles have been defined (e.g. Pickernell et al., 2007). We will use: designer, delegate, driver (IM-gruppen, 2003), and dragon (Klint and Sjöberg 2003).

The main task of a *designer* takes place in the initial stage when the network vision has to be promoted to potential sources of funding and potential network members and collaboration schemes devised. The importance of this role gradually decreases as the network becomes more self-propelled. The role of the designer may, however, regain its importance if the network decides to recruit new members. A *driver* provides a passionate driving force focused on fulfilling the network visions. The driver has the role of a "locomotive" – he/she drags the network operation forward. This person might even work without getting paid. The third, and most common, role is the *delegate*, the role of the ordinary network participant. A delegate tends to have a rather passive, wait-and-see, attitude. It is, however, fairly common that the most active delegates, form sub-groups within the network. The other delegates choose to stay rather passive and take what appeals to them without giving much in return. The fourth role is the *dragon*. Dragons are often large companies that take an active and leading part in the network operation but unlike drivers or active delegates their presence brings legitimacy to the network and thus facilitates and encourages the participation of other organizations.

The above mentioned roles can be performed by member firms or by the hub. The hub may take part in the initial stage as a designer and he/she is definitely a driver in early stages of network

development when few inter-member relationships are present. The hub then has to initiate activities that can function as meeting-places and foster relationship development among the members. If relationships do develop among the participants they may begin to take their own initiatives and the hub may withdraw to the role of a delegate or as a driver in certain activities only. However, when a funding period is about to end, the hub often becomes a designer again, trying to raise funds and member firms for a prolonged period.

Relationships and commitment

In order to promote a development of relationships and commitment, leading to the overarching network goals, the hubs try to facilitate and stimulate a development of personal and inter-organizational relationships between the participating actors. Smooth personal interaction paves way for coordination of activities and creation of mutually beneficial routines (Håkansson 1982). Activities of a social nature furthermore promote a development of confidence and trust between the companies (Morgan and Hunt 1994) which increases the degree of dedication and involvement in cooperative projects. Some researchers claim that if cooperation is non-contractual, it is based more on confidence and trust than if contracts are involved (Sharma 1998). It has been found, however, that many forms of cooperation are based on both contracts and trust at the same time (Roxenhall 1999).

The view of relationship development as a key success factor for business development is also supported by the works of Granovetter (1973) on the importance of weak ties for information access and Burt (1992) on the value of bridging structural holes for opportunity recognition. Further, in a meta-analysis of factors influencing the effectiveness of relationship marketing, Palmatier et al. (2006) conclude that interpersonal relationships between boundary spanners may be more effective and sustainable than relationships of an organizational character. An initial focus on developing personal relationships may thus prove to be successful.

Among a number of concepts used to describe the strength of relationships, commitment stands out as a key factor (Kim and Frazier, 1997). Relationships and commitment among the participants can be regarded as structural factors when prevalent among the participants at the start of the network and as outcome when developed as a result of the network operation. Studies of some Swedish RSNs (Thyberg et al 2006) indicate that hubs often experience a lack of commitment among network members. Lack of commitment is often displayed by a high degree of absence of network members at meetings, commonly justified by lack of time (Huggins, 2001). The lack of commitment appears to be a great, recurrent, and intractable problem that is important to tackle as it affects the networks' results.

In a network perspective, commitment concerns how much companies intend to invest in the network in terms of time and money, or how much effort they want to put into maintaining their membership in the network. It is not a question of the companies having an obligation to someone else in the network (the project management of the network or other network companies), it is more a case of committing oneself by investing in, or making an effort to maintain, the relationship with the network as a whole (Roxenhall and Johanson, 2007).

Activities

In business networks "activities are undertaken by actors who activate their resources in a process in which other resources are refined" (Dubois, 1994, p. 23). These activities are not carried out separately; they are linked to those of others in various ways. The important feature of activities is

that they are enacted “in the sense that actors develop and organise their activities in response to how their counterparts, such as customers and suppliers, perform and organise theirs” (Dubois, 1994, p.27). In RSNs, however, activities are arranged by the hub in order to provide arenas for interaction and opportunity recognition. Formal and informal meetings constitute arenas in which the member companies can exchange information, share and integrate knowledge and resources and to develop shared policies and norms (Imperial 2005). Activities may have the character of seminars, lectures, education programs, study-visits at network members’ premises, join in marketing and in applying for collective resources and grants, etc..

Outcomes

In RSNs, goals may shift over time, which makes it difficult to clearly determine the relationship between objectives and outcome; the choice of goals for evaluations may have an impact of the degree of effectiveness reported. Furthermore, even if results can be planned to a certain degree, unplanned effects are likely to prevail as the members are independent actors with a major influence upon the processes leading to outcomes. The initial goals may influence the network structure and thus the activities and the outcome at start but “what drives a project to completion is then not the initially declared ends and means, but commitments, dependencies and expectations developing in the process of interaction” (Sahlin–Andersson, 1992, p. 74 in Mähring, 2002).

RSN initiators tend to set quantitative goals like increased employment, new products, and new firms. However, it is hard to discern effects attributed to this specific measure only and it is hard to capture long-term effects. Furthermore, the participants may strive for measurable effects such as sales and profit but also for more non-quantitative effects like new social relationships (as a first step towards business relationships) and knowledge development; in both cases there may be short-term as well as long-term effects that may be hard to grasp for an evaluator but also for the participants themselves (Baslé, 2006, Armstrong and Wells, 2006, Lundberg, 2008).

In order to facilitate network efficiency, Lantz et al. (1998) suggest that each member company should adapt their own internal organization to a networking mindset. In practice, it is mainly the larger companies that require such measures, since smaller companies generally have to intergrate their networking efforts with all their other tasks (Klint and Sjöberg, 2003).

Method

A longitudinal case study was conducted on two RSNs acting in different areas of business in northern Sweden. Networks are “embedded in different spatial, social, political, technological and market structures, which makes each network somewhat unique and context specific” (Halinen and Törnroos, 2005, p. 1286). Halinen and Törnroos thus conclude that the case strategy is the most suitable method for studying business networks. The study is comparative, qualitative and based on observations during network activities for a period of four years. In addition, 6 interviews with network hubs have been held.

The cases were chosen for study due to a unique access to these networks as two of the writers participated in network activities, such as network meetings and work-group activities, from the start in 2004 until 2007. These writers furthermore organized the business development programs implemented in both networks. The programs were arranged by the network in cooperation with the local university. A researcher’s part-taking in activities together with the ones observed facilitates observations through time of studied processes and enables observations of what is actually

accomplished (Van Maanen 1998, Silverman 2005). Nevertheless, critics regard this way of collecting data as a problem as it causes difficulties in terms of objectivity. That situation arises if the researcher focuses on irrelevant details in order to legitimize interpretations, or if inferior knowledge of the context and terminology is provided (Silverman 2005). The advantages are improved understanding of the informants and their objectives, both imperative for understanding processes and contexts (Jönsson and Lukka 2006, Johanson, 2001). The data collected through observations was not fully documented according to field research recommendations (see Van Maanen 1998), but were assembled and discussed by the members of the research-team. The observations constituted an important basis for the development of interview-questions and for interpretation of the interviews as well as the overall network process.

Two group interviews with the networks' hubs were conducted in 2005. In addition a separate interview with one hub-representative of the *Forest* network was carried out in 2006 and two interviews with both networks' hubs in 2007. All interviews were based open-ended, semi-structured questions. They followed some of the criteria presented by Kvale (1997) as they were characterised by short questions and long answers and the meaning of the answers were clarified during the interviews. Notes were taken during the interviews but they were also tape recorded so that quotations and arguments could be double-checked. While the group interviews lasted for four hours each, the three other interviews required about two hours. Data was also collected from memorandums describing network meetings, the networks' funding applications, project reports, and evaluations.

Empirical findings

In the following, empirical findings related to initial conditions, activities, and outcomes are presented. Both RSNs were established in a sparsely populated region (the largest city has 95 000 citizens) with funding from the municipality, the county, governmental, and European Union related sources. Representatives² from a local science park, connected to the local university, acted as designers and drivers. The science parks' goals, for both networks, were set prior to the networks' start and stated that interaction between the participants was intended to generate new products, new companies and an increased number of employees regionally within the trade.

The *Finance* network was established in 2003 with a mission, set by the organizing science park, to stimulate cooperation between the participants, even though they were competitors. Thirteen large firms and organizations participated. Most of them represented the same line of trade: banking, insurance and pension plans, and they operated at a regional, national and international level; however, the majority had their headoffices located elsewhere, in the capital of Sweden. Network participation was spurred by the local managers' fear that their business operation would be relocated to another region. Nearly all local organizations within these fields were represented in the network. One of the large organizations declined membership at first, but decided to join after a year.

The *Forest* network was established in January 2004. It comprised about sixty actors of varying size from the Swedish *Forest* industry, several of their subcontractors, representatives from related businesses, and researchers from the local university. The initial ambition was to start a process that would strengthen the participating multinational companies' sub-contractors in terms of

² This science park was an organization focusing on developing businesses, innovations, and new firm establishments by means of networking. It was located at the campus of the local university and financed by five municipalities in the region, the county administration, and membership fees.

collaboration and skills to be able to meet increasing market demands. Initially, the members were asked to fill in a questionnaire and state their point of view on how such a venture should be pursued. The overall network mission and goal were set by the members of the program councils to “strengthen the bonds between the participating actors in order to achieve productive networks with the capacity to enrich people and businesses in a manner that will increase their competitive edge and enhance regional growth”.

Collective *Finance* resources were available for both networks’ operations at start through grants from the municipality and county administration. These grants were supplemented by membership fees. During 2005, both networks gained further resources from the county administration in order to arrange business development programs for the networks members. While the *Finance* network achieved limited means for arranging one program, the *Forest* network ran three business development programs and a coaching program. Additional funds and knowledge development programs were provided by, the participants themselves, local actors, as well as a governmental related organization.

The impact of initial conditions

Goals and expectations

The RSNs had to comply with the county’s, the region’s, and the European Union’s standard in setting measurable and growth related *initial* goals, These overarching goals were ample and vague in terms of what to achieve and gave little direction in choice of paths to reach results. They were, however, accompanied by measurable indicators of the number of expected new products, employees, and firms. It soon showed that the participants did not relate to the overall goals. A process of formulating more specific goals - *actor goals* – was thus initiated that promoted interest and commitment for network participation.

Over time some representatives left their positions in their firms, and thus in the networks. The newcomers, who had not been involved in the previous goalsetting processes, showed less commitment to network activities.

In the *Finance* network, the competitive situation hampered the members’ involvement. They were reluctant to share information and found it hard to cooperate on business related issues. However, they quickly found a way out by focusing on non-competitive activities with a potential to reduce costs and increase local competence. They agreed upon a clearly defined vision at an early stage: “to create prerequisites for this region to become one of Scandinavias’ most important knowledge centers in this field”. This vision directed the development of a new set of network goals and specific goals for three working-groups.

In the *Forest* network, all members were invited to the process of setting more specific network goals, actor goals. The network hub considered member participation in determining objectives to be crucial to the development of collaboration within the network. The actor goals set at network start were: firstly, to attract the most knowledgeable and skilled personnel in the region, to promote knowledge deployment between these, and thus enhance shared values. Secondly, to find forms for resource sharing - with regard to knowledge, education, enrichment - and exchange of know-how among all networks actors. Thirdly, to create new products, services, businesses, and relationships between actors and markets.

The process of formulating new goals was more time consuming in the *Forest* network than in the the *Finance* network. The participants in the Finance network had similar backgrounds and came

from a similar context; they could easily understand each other and agree upon how to proceed. The actors in the Forrest network needed time to learn to know each other and develop common goals. Thus, while the *Finance* network decided on their objectives at a specific meeting early on in the process, the *Forest* network used more time drafting these. When network specific goals were set, the hubs in both networks experienced increased commitment amongst the member companies. We therefore argue:

P 1: In large and complementary networks with few initial relationships among the participants, a goal-setting process spanning several network meetings will be needed in order to secure commitment among a large number of participants.

The goal-setting processes differed in the networks even if they were supposed to adapt to rather similar growth related initial goals. These initial goals were wide enough to allow for various interpretations and path choices. We therefore argue:

P 2: Vague initial goals are advantageous for network outcome as they allow each network to choose goals and activities that suit its specific conditions.

Goal-setting in the *Forest* network was linked to the participating firms' business needs and, as most participants managed their own SMEs, also directly to the participants' earnings. In the *Finance* network, however, the participants were employees with limited authority and with no direct link between the companies' earnings and their own wages. Thus, personal needs, like knowledge development and social needs, were more pronounced incentives for participation. For example, some network representatives experienced their participation as a "fringe" which they wanted to keep for themselves. They thus avoided inviting or involving colleagues, which meant that network issues were not fully anchored in their own organizations.

However, also the common objective of fulfilling the participants' needs for personal and professional development turned out to be a strong incentive for active part-taking. We therefore argue:

P 3: When member representatives are employees only, and to a large extent lack authority to make decisions on behalf of the company, their personal motives for participation become crucial.

P 4: Network goals based on the participants' personal needs constitute strong incentives for network participation.

In the *Forest* network, there was an extensive need for collaboration. The conditions were also more beneficial than in the *Finance* network as its members had greater autonomy, were able to make their own priorities, and took part in more network activities. No study of expectations was made. The members were, however, at the start of the network invited to list what they wanted the network to focus on, and to participate in the goal-setting process. The majority expressed interest in business related issues as for example to exchange information and to gain new contacts and customers. We therefore argue:

P 5: The need for complementary resources is a powerful incentive for SMEs as these companies often are represented by their owners who give priority to their firm's interests.

The hub and the network organization

Both networks had a hub and, assigned to support the hub, a program council made up of four to six representatives from the local university, the business sector, and public organizations. While the hub-function in the *Finance* network was performed by one individual, the *Forest* network's hub consisted of three individuals possessing different proficiencies. One had coaching skills and skills in administration. He acted as a coordinator and proved to be capable in terms of organizing, communicating, and following up ongoing business. He consistently displayed humility and sensitivity in his contacts with the network members. The second hub member had extensive experience of commercial business, and the third acted as a source of inspiration, indulging in storytelling and strategies for obtaining resources. By assigning three members to the hub with different competences the *Forest* network also secured continuity in the hub function as relationships developed with member companies over time. The *Forest* network had more participants than the *Finance* network, but they had a greater need of cooperation and possessed complementary resources. This network was thus probably somewhat easier to coordinate than the *Finance* network (Human and Provan 1997).

The first individual performing the hub-function of the *Finance* network was also experienced in administration, legal matters, and in providing written information to the participants. These characteristics were emphasized, time and time again, by network members as particularly positive and necessary for a smooth network operation. He furthermore provided a major driving force by initially "taking charge of" development processes - a situation with certain inherent hazards since it might deprive other participants of an opportunity to display drive and initiative and cause them to experience a lesser degree of accountability. However, the hub displayed good social skills as he gradually handed over the process to the network actors.

The *Forest* network's hub did not change during the time of the study but the management of the *Finance* network changed in 2006. Their hub had a temporary assignment and was asked to return to his ordinary post. The continuity in the hub function was therefore broken as were the development of relationships, trust and commitment between him and the participants. In addition, there was an informal agreement within the network that the program council-membership should circulate among the member firms, so two of the participants in the program council were replaced. There were also some changes in the individuals representing the network members. All-in-all, these alterations in the *Finance* network reduced the members' commitment to the network and, for almost a year, participation at network meetings dropped. The new hub and the program-council therefore decided to "make a new start" in order to promote commitment amongst the members.

During 2006, new goals were set in the *Finance* network and four new working-groups were formed, focusing: education, local growth, the establishment of a national research institute, and activities for the network actors' employees. However, in 2007, the second hub went on maternity leave and a third new hub was appointed. This hub had prior experience of RSNs but no prior relationships to the network's members. He thus lacked legitimacy in the group and he was not familiar with the network's history. Furthermore, at that time, many of the "old" members were getting tired of always being the ones to engage in activities and there was a general feeling that commitment was low even if a lot of activities were carried out. The many changes in representatives supported that feeling.

In summary, changes in the hub-function and in the member companies' representatives had negative effects. We therefore argue:

P 6: A hub encompassing more than one individual improves the chances of continuity in the hub position.

P 7: The hub as a person, his/her legitimacy, competences, reputation, etc, greatly affects the level of commitment initially achieved in network operations.

P 8: Lack of continuity in the network hub position, or in member representatives, will affect the level of commitment amongst network members and thus the degree of member participation at network activities.

The *Forest* network used a big company with many subcontractors to entice participants to the network operation. Many of the actors invited were sub-contractors or wanted to be included as such. Subcontractors were eager to maintain their position as the big company was reorganizing their line of purchase in order to reduce costs and increase efficiency. Other firms, which earlier had not even been able to make an appointment to present themselves, saw the network and its meetings as a possibility to get in contact with the big company.

P 9: A network initiation process may be efficient, in terms of gathering many actors, if a big resourceful company or organization takes a leading role.

In both networks there was a diffuse but hartfelt threat concerning the trades' opportunity to continue its operations in the region. In the *Finance* network, there was a risk that local offices would be re-located or closed down; it actually happened in one case during the period of the study. In the *Forest* network, the large actor demanded increased cooperation and professionalism from its sub-contractors in a manner of "if you don't comply, your out". These threats caused the RSN initiatives and facilitated the recruitment of participants.

P 10: Threats form a strong incentive for establishing RSNs.

P 11: Threats facilitate membership recruitment in RSNs.

In the Finance sector, the number of firms within that field was smaller; they guarded each others actions and felt that "if the others are joining, we need to be there to". The hub and the CEO of the science park initially recruited the RSN members. They met all actors in person – starting with the big, strategic, and positively inclined ones in order to create a strong argument for the others to join in. By using the argument that several companies already had entered the network – and naming these - it became increasingly difficult for the remaining ones to choose to decline membership as it could deprive them of vital information; almost all actors in the trade joined.

P 12: In a line of business with few actors there will be a threshold-effect – if a sufficient number of firms join the network, the others will follow for fear of being excluded from important information and events.

Complementary and competitive settings

The networks differed in the composition of actors and resources. The *Forest* network had a complementary setting (dissimilar activities and capabilities) (Richardson, 1972). Some of the subcontractors were competitors, but most of them had complementary resources. The member representatives had varying backgrounds and educations but were united by the line of trade. Early on, the network focused on promoting good relationships between the member companies.

The *Finance* network comprised mainly large actors and had a competitive setting (similar activities and capabilities) (Richardson, 1972). The member representatives had similar educations and business experiences. In Sweden, banks, insurance companies and pension planning organizations are furthermore often linked businesswise and almost all of the organizations offered insurance and pension related products. The actor similarity in the *Finance* network caused the participants to guard their business secrets and made them focus on developing common services, such as joint courses and marketing of the network. However, as most members had head-offices located outside the region, incentives for cooperation existed in the promotion of the region. They decided to focus on moulding tailor made courses for the network companies' employees in cooperation with the local university, marketing the network nationwide and thereby strengthen the local offices position vis-à-vis other regional offices and the head-offices, and finding and implementing strategies for new establishments and expansion of existing companies. They encouraged businesses to choose the network hometown as their base, and firms already present to expand their present workforce locally. Meetings were arranged with participants from the network, principals from the companies in question, and representatives from the local university and municipality in order to present advantages offered by applying such a strategy. We therefore argue:

P 13: The composition of actors in terms of competition or complementarity has direct implications on the kind of network goals that are chosen.

P 14: Participants of a competitive network will choose to support common, non-competitive objectives.

P 15: Participants of a complementary network are less secretive and will choose to develop their own businesses through cooperation.

The number of actors

The RSN initiators saw a large number of actors as an advantage, especially for funding applications, as it implied magnitude and importance. The *Finance* network comprised a smaller number of actors and was therefore easier to overview compared with the *Forest* network. However, if participation turns low in a small network, the incentive for participation might decrease even further as there will be only a few left to communicate with and thus fewer ideas and business opportunities to share. A low attendance rate, however, implies an opportunity for those present to be seen and get further acquainted. In the *Finance* network, however, the participants were already fairly acquainted and a lot of the discussion focused on the absent actors. There were only a few actors who knew each other and operated within the same trade, social control was thus present and it was expected that all members should participate. In the *Forest* network, there was a much larger number of members, and thus many possible partners to choose from and a variety of business opportunities to be found. A network of many actors will be harder to overview and relationship development will take longer time as members will not be exposed to the same number of unplanned encounters. If the hub function lacks resources it will meet difficulties in finding time to meet with the representatives who thus receive less attention and feel less important and committed. The *Forest* network operated on grants from the science park, the county and the European Union and had thus resources to keep a more extensive hub (three persons) with time to maintain a dialogue with member companies as well as implement activities. The *Finance* network's operation was financed by the county, but the resources only enabled one part-time employed individual in the hub. We therefore argue:

P 16: When a network comprises few members, high attendance rates are required at network meetings to keep up commitment.

P 17: When a network comprises many members, the hub-function becomes more central and needs more resources to keep up commitment.

Member sizes and roles

The resourceful actors in the *Forest* network participated in several network activities. These actors were known to take on a local development responsibility that went beyond their operations within the trade. The SMEs were anxious to find ways to get in contact with the big companies, as this had met with difficulties earlier, to be able to promote their services. They were also eager to meet other SMEs as many managers felt rather lonely, had limited resources for development, and sometimes had a hard time coping with sales and production. Network membership offered an opportunity to share information and experiences, and to explore potential constellations for collaboration. However, their participation was hampered by their lack of resources for participation in network activities. The *Finance* network mainly consisted of large firms and organizations. Some of these were active. We argue:

P 18: Due to their need for collaboration and business exchange, SMEs are likely to be motivated to actively participate in a network operation if they are able to allocate resources for participation.

The network members took on different roles. The hubs representing the science park were *designers*, responsible for designing the networks. The responsibility for running them, however, gradually shifted to the most dedicated individuals within the networks, the *drivers*. The *Finance* network contained many drivers that at the same time acted as *dragons* by legitimizing network participation for others. According to the hub, more than fifty per cent of the network actors were to be regarded as drivers, an unusually high figure (Human and Provan, 1997). The members of the program counsel moved in and out of the roles as designers and drivers as the network operation continuously changed and as the roles, network aims, and activities altered. The network also encompassed a number of *delegates*, some of them dragons. However, the **many drivers** spurred a lot of action and activities, eventually of an extent that was burdening, causing stress and frustration, as some of the drivers felt that the delegates did not sufficiently support the network operation.

During the first year and a half in the *Finance* network, the level of participation at network meetings was as high as about seventy per cent. During 2006, however, the participation decreased to below fifty per cent. This was the time when new firm representatives, not as dedicated as their predecessors, were appointed. These new actors' lack of involvement caused irritation and loss of energy among the committed ones and the drivers expressed discontent with what they interpreted as loss of interest in the network operation. They had a lot of ambition and there were tasks that now had to be divided among just a few members. We therefore argue:

P 19: High ambitions, multiple activities, many drivers and a few active delegates in a network setting will eventually wear the drivers out. The hub thus has to make sure that the undertakings match the number of drivers and active delegates.

P 21: A mix of roles in RSNs is important as it might contribute to the creation of balance within the network.

In the *Forest* network, there were fewer but more powerful dragons due to their sub-contractor relationships with the SMEs. These dragons were also acting as drivers in that they promoted certain issues of strategic importance to the development of these industries. There were also drivers among

the SMEs. The number of drivers in the *Forest* network was estimated by the hub to about forty per cent and about fifty per cent were delegates. The hub and the program council made up the remaining ten percent in their role as designers and drivers. The network members' commitment can be regarded as high as the participation at network meetings increased from about fifty per cent at network start, to sixty per cent during 2006. The designers, the individuals in the hub and in the program council, continued to act in that role over time as the network was in constant change. New actors with differing needs, goals and expectations joined the network and access to collective resources and grants altered. In the *Forest* network, for example, the network hub had to apply for resources and locate new and strategic actors to a "packaging cooperative constellation" that was established as a result of network activities. In the *Finance* network, the hubs had to start all over as representatives changed and new actors joined. The activities, working-groups and resource constellations had to be adapted according to new needs and new external conditions. We therefore argue:

P 22: There is a constant need for designers in RSNs as network conditions change over time.

P 22: Drivers are needed to keep up network activity.

P 23: The presences of dragons in RSNs legitimate network participation for other firms/organizations and facilitate the securement of grants.

P 24: A large number of delegates provide magnitude to the network and thus facilitate the securement of further resources.

Relationships and commitment

The members of the *Finance* network represented similar areas of trade and came from related cultural settings, thus a substantial portion of the personnel involved were acquainted or had relationships prior to network start. They also had similar education and experiences, which facilitated relationship development. Some representatives from the member companies had previously worked together, or had met at trade meetings. The participants' commitment to the network-vision was very much in evidence during the network launch, as almost every local company was represented at the different meetings and in working-groups. Frequent interaction in these working-groups resulted in further relationship development among the participants. The new and improved relationships further inspired these actors as it made the interaction more joyful and rewarding. This development thus further strengthened commitment.

In the *Forest* network some members had relationships at network start. In order to further promote relationship building the network hub prioritized arrangement of network-meetings during which the participants were encouraged to present themselves, their businesses, experiences, and future challenges. These presentations, during the first year of the network operation, visualized the member companies' resources in a way that opened up for mutual understanding, opportunity recognition, and relationship development. The hub furthermore tried to support relationship building by arranging team-building activities. Relationship development took some time, though, as the network members came from different industries and had differing experiences and education. While the initially high attendance rate decreased over time in the *Finance* network, due to replacements of hubs and representatives, it increased in the *Forest* network as relationships (social and business) were established. We therefore argue:

P 25: In a network of actors from different fields of trade, a development of relationships between the participants that results in collaboration is time consuming.

P 26: In a network of actors from the same or similar trades, smooth and fast relationship development will be achieved if the focus is on common and competitive-neutral activities.

The impact of activities on RSNs' outcomes

In the *Forest* network there were few relationships to begin with, the hub thus chose to emphasize social activities that led to relationship development, cooperation, and business skills. In contrast, most of the participants of the *Finance* network were well known to each other. They quickly formed working teams focusing on solving common problems linked to knowledge development and domestic marketing of local competences.

The number of network meetings and the attendance frequency were high in both networks during 2004 and 2005. In 2006 and 2007 fewer meetings were organized for the *Finance* network as a whole and the attendance rate at these meetings decreased. A lot of activities were, however, organized and carried out in the three working-teams. It finally came to a point when the hub began to worry that the network would cease to function as a unit. A business development program encompassing all but one member was started to get the whole group together as a unit again. In contrast, the *Forest* network continued to give priority to activities, like network meetings and knowledge and information exchange, aimed at gathering the entire network. These activities were complemented by separate coaching for SMEs and three business development programs were run. The hub felt that the participants needed support in organizing activities to keep up relationship development.

We

argue

that:

P 27: Social activities facilitate relationship development and resource sharing between RSN members.

P 28: A balance is needed between working in teams and general network meetings.

A well reputed business development program was run in both networks during 2005. The programs lasted for a year, encompassing six lunch-to-lunch meetings comprehending seminars, workshops, lectures, discussions, team-building, counselling, and social activities. They offered the member companies possibilities to gain new knowledge, to exchange information and experiences through discussions, and to develop a business plan. As the *Finance* network was small, all but one member participated in the program. Due to the competition between them, they disapproved, however, of the idea of developing and exposing business plans. The program therefore came to focus on neutral, shared objectives: education of employees, local expansion, and the initiation of a trade related research institute.

During 2005, the *Forest* network's focus shifted from relationship building to business development. As mutual knowledge and relationships develop, sub-groups began to form within the network, such as a research and development unit who took on the assignment of identifying and promoting cooperative projects. Two business development programs started that involved twenty individuals representing eleven network participants. In addition, a marketing and sales program was arranged as well as a coaching program directed to the networks' SMEs. The participants chose to develop their own businesses or ideas in the program.

According to the participants, the most valuable result of the business development programs was the establishment of new relationships. The relationships combined with high attendance frequency at

meetings caused the hub to refer to its participants as the “heart” of the network. Even if most of the participants worked on their individual projects, they showed an eagerness to help each other out.

The business development programs resulted in knowledge development among the participants. This, in turn, increased their absorptive capacity (Cohen and Levinthal 1990) for further knowledge development. The programs, furthermore, resulted in confidence, trust and relationships between the participants. These results could be expanded on in the RSNs as the participants did not split up after having completed the programs but continuously interacted in the network setting.

Activities promoting social exchange played an important part in the business programs but were also arranged by both networks for all members. The hub of the *Forest* network exposed an awareness of the importance of social interaction for the development of coordination, routines (Håkansson 1982), trust and commitment (Morgan and Hunt 1994), not displayed by the hub of the *Finance* network. We therefore argue:

P 29: Activities promoting business information exchange are important for actors learning to know each others' businesses.

P 30: Activities promoting social exchange are of utmost importance for actors learning to know each other as individuals, but also for promoting a development of trust, beneficial for cooperation and business exchange.

P 31: Activities like the business development programs are successful in developing relationships and commitment as they provide opportunities for frequent interaction mixing social and business activities.

Network outcomes

During the existence of the *Finance* network, one new company has been established. The chain of events leading to this is, however, unclear, so it cannot be presented as a result of the network operation only, but the idea seems to have sprung from discussions at network meetings. Furthermore, two tailor made courses were produced and arranged in cooperation with representatives from the local university and a trade specific master program at the local University has been developed. A seminar program with staff from the university sharing their research findings with the member companies' employees started spring 2007, comprising seven meetings. A new research institute was established at the local university in autumn 2007. Marketing efforts resulted in a great deal of coverage, by local and national press as well as by trade magazines and the member companies' internal newsletters, on the trade-unusual network constellation. The attention has created an awareness of, and interest in, the quality-enhancing growth process in the region. The *Finance* network's participants succeeded to attract the attention of their peers. This was, for instance, displayed when, after a newspaper article telling the tale of the network, one of the network members were contacted by a superior at their head-offices asking “*we are in, aren't we?*”. According to the representatives, the network activities have influenced decision making in the companies in a way that has encouraged management to relocate parts of their business operations to the networks hometown. The hub estimates the effect to approximately 150 new jobs in the region.

The business development programs provided the network members with pedagogical methods and support with regard to business development. The programs also initiated further relationship building process amongst the actors. This is likely to have improved the member companies' willingness to adapt to a networking mindset (Lantz and Liljefors et al. 1998). New relationships

have been established between participants in both networks. In the *Forest* network some companies have started to cooperate businesswise, while exchange and cooperation in the *Finance* network mainly concerns common objectives.

In the *Forest* network, new products, prototypes and services have been developed especially by those who joined the business development programs. One company has been created, due to one of the network actor's existing operations hiving off. At least four of the companies have engaged in contractual businesses. Others have formalized their cooperation in a research training program, including twelve doctoral students, that has been started at the local university. According to the hub of the *Forest* network, approximately 70 new jobs had been generated in the member organizations during the first two years of the network. As in the *Finance* network, it is however not possible to show that it was all due to the network operation.

Conclusions and managerial implications, MI

The impact of initial conditions

The study exposed that the initial goals, set during the design phase in order to gain *Finance* resources for network establishment, during the operational phase often need to be adapted to the network members' expectations and requirements, as well as their representatives' personal needs.

MI 1: Goals have to be set at different times, at different levels, and for different purposes. They have to be compatible while still satisfying regional demands, the members' demands, as well as the representatives' personal demands.

Clearly defined goals, personal and business related, formulated by the network participants themselves at the start of the network operation were found to be beneficial for network outcome.

MI 2: Management needs to keep track of member expectations and needs, in order to include these in the goal-setting process, and to continuously evaluate goals and be open to changes.

Participants in a network of competitive actors may profit from sharing common, non-competitive goals, while participants in a network of complementary actors may gain from developing their company specific projects together with other network actors.

MI 3: The hub and the financiers should be conscious about how competitive or complementary actor assemblies will function when designing a network and setting its goals.

Another finding was that a large and/or prominent member will function as a magnet, legitimizing network participation and attracting other actors to the network operation for business purposes.

MI 4: It is important to try to find and involve a large and prominent actor during the design phase and to utilize these actors' networks, for example sub-contractors, in order to recruit network members.

A further finding is that commonly perceived threats, supporting the findings of Doz et al (2000), or lack of opportunities to gain vital information, are strong incentives for enrolling in a network operation.

MI 5: When designing RSNs, it is important to identify and utilize threats that might spur network cooperation.

Access to joint resources facilitates the appointment of a hub and thus practical arrangements like meetings, crucial for promotion of interaction and relationship building between actors not previously related. Thus, the number of participating actors should be regarded in proportion to the resources available to the hub. Hubs in RSNs often have a project related part-time position that lasts one to two years only, but continuity in the hub position is crucial as new hubs may have less legitimacy, be less trusted, and thus negatively affect commitment among the network members.

MI 6: RSNs are in need of resources for employing a hub to an extent that allows full attention on the assignment during the design and operational phase. Resources are also needed for frequent arrangements during the first years of the operational phase as continuity of meetings promotes relationship development and cooperation.

The impact of activities on outcome

Alongside the function of contributing to business development, the business development programs were found to hasten the process of inspiring confidence and fostering relationships between the participants.

MI 7: Structured activities, like the business development programs, related to the participants' personal or business related development, will render efficiency to the network operation.

In summary, these RSN-initiatives resulted in relationship development between several of their participants. The relationships are still mainly of a social character but some steps towards business relationships have been taken and in some cases business relationships have been established. The business approach is, not surprisingly, most pronounced in the Fiber network, but results of a business nature were also achieved in the *Finance* network as business operations have been relocated to the region. The RSN initiatives have thus had an impact on the structure of the business network as a whole.

It can thus be added to the IMP discussion that “organic” relationships, regarded as important by the actors themselves, may develop even in “created” settings and that RSN initiatives thus will change the business network. The results are, however, not directed, nor foreseen. They develop as a result of the provision of opportunities for interaction and the members' own decisions to act on opportunities they come to recognize. The outcome is thus “organic” but the probability that relationships will develop between actors in a particular region is increased by means of RSNs.

A complexity when discussing RSN outcomes is that positive results for an individual or a firm/organisation may turn out to be negative for the region. For instance if a firm, through information exchange with network members, learns how to outsource production, or even move the whole business to other regions in order to decrease production costs. Such acts may increase the firm's revenue but will decrease employment opportunities and tax incomes in the region.

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