

Can regional strategic networks provide cluster advantages?

Heléne Lundberg

Department of Social Sciences, Mid Sweden University

Sundsvall

Sweden

Helene.Lundberg@miun.se

Abstract

In this paper opportunities and limitations of strategic networks are examined. Strategic networks are often used as a tool for regional development in search for some of the advantages of co-localization and co-operation reported from clusters. Their aim is to create an enabling context that stimulates and facilitates inter-firm collaboration. Strategic networks have become abundant world-wide as a large number of regional development programs have been undertaken by government agencies in support of business development in local firms. However, there are crucial differences between the contexts of strategic networks and the clusters that inspire their creation and the results reported from strategic network programmes have been mixed. In order to improve our understanding of the opportunities and limitations associated with strategic networks the influence of contextual conditions needs to be pinpointed. While some important characteristics of strategic networks are related to the nature of strategic networks as such, others are in the hands of the founders and can be affected during the design process. The fundamental idea behind strategic networks is bringing together firms with no or weak prior relationships. Furthermore, a hub-function coordinating network activities and a finite administrative life span are general characteristics affecting the process, while the criteria governing the choice of member firms is an important factor that can be controlled. Typically, the extent of complementary or similar resources held by member firms is an important contextual dimension. Three propositions are formulated regarding the influence of the group composition on expected relationship types and membership effects.

Keywords: Strategic network, clusters, regional development, network horizon, network context

Introduction

Strategic networks and clusters do not represent end points on a scale of interaction modes. It is rather a question of means and ends. In this paper, cluster denotes a spatial and sectoral concentration of firms. The interaction and knowledge exchange ascribed to successful clusters, like the Italian industrial districts, is organically developed over time and represents a state that strategic networks are intended to foster among their member firms. Strategic networks are designed and implanted as an add-on to their member firms' ordinary set of relationships. They are intended to support and complement the function of the market-based relationships by strengthening the interaction and co-operation between firms localized in a particular region. It has been shown that resource utilization and development have important interactive dimensions, not only referring to technical and physical resources but also to resources of a social origin like skills and knowledge (Håkansson and Waluszewski 2002). The initiators therefore expect increased interaction to improve the competitiveness of the participating firms. However, the reported outcomes of strategic network initiatives have been mixed (Huggins 2000; Neergaard 2000; Nilsson and Nilsson 1992; Nilsson 2004; Rosenfeld 1996) and evaluations are considered hard to undertake as the nature of the networks created varies considerably. Furthermore the interventions are usually relatively small and indirect.

It can be argued that actors in a strategic network are already part of the all-encompassing business network as all market actors are directly or indirectly interconnected. However, an actor cannot grasp the business network in its entirety. It will act within an actor specific network horizon only (Snehota 1990). Furthermore, of the actors within the network horizon, only a subset will form the enacted, relative and company-specific context considered relevant for strategic actions (Anderson, Håkansson and Johanson 1994; Holmen and Pedersen 2003; Håkansson and Snehota 1989). Firms joined in a strategic network may therefore encounter fellow participants that are part of the business network but have not previously been perceived and included within their network horizons. In other words, the strategic networks are structures intended to make firms in a particular region mutually visible as visibility is a prerequisite for purposeful interaction.

The characteristics of prosperous clusters may be very different from what they were at the nascent stage. Determinants of success may moreover vary between different contexts and different stages of cluster development (Bresnahan, Gambardella and Saxenian 2001; Feldman 1999; Feldman 2001). There is thus no general recipe for success available but still attempts are made to stimulate and support a development towards business conditions resembling cluster contexts, in hope of some of the advantages that clusters may have on business conditions and in accordance with the recommendation by Porter that governments at various geographical levels should sponsor forums to bring together cluster participants (2000). The Danish government pioneered when it announced a comprehensive network programme in 1989. Inspired by the Italian industrial districts it wanted to encourage network co-operation among Danish small and medium-sized firms. Strategic networks have thereafter been widely applied world-wide as a tool for regional development, but there are still few systematic studies of the impacts, and the results reported have been inconsistent (Huggins 2000; Neergaard 2000; Nilsson and Nilsson 1992; Nilsson 2004; Rosenfeld 1996). Further research on regional strategic networks and on the distinction between organic and implanted structures has therefore been asked for (Huggins 2000; Neergaard 2000; Nilsson and Nilsson 1992; Rosenfeld 1996). We need to clarify the contextual differences to be able to discuss the opportunities and limitations of strategic networks aiming at cluster advantages. The purpose of this paper is to bring forward and elucidate some important context characteristics, and to discuss their likely implications on possibilities and limitations of business development in strategic network settings. The discussion is based on a distinction between similar and complementary resources and the associated horizontal (competitive) and vertical (supplier-buyer) relationships.

In the following, strategic networks will be defined and characterized. Thereafter claimed cluster advantages are presented and the context of their origin is discussed based on the vertical and a horizontal dimensions. Finally, a context comparison is made between strategic networks and clusters and likely effects of membership in strategic networks are discussed.

Characteristics of strategic networks

This paper deals with strategic networks defined as a number of firms joined in a group aiming at co-operation but without any formal obligations. They represent co-operative arrangements among a group of actors in line with Jarillo's (1988: p. 32) definition of strategic networks as "long-term, purposeful arrangements among distinct but related for-profit organizations". However, although the purpose is to achieve long-term effects the strategic networks used for regional development purposes are projects of a finite duration. Furthermore, in the strategic networks described by Jarillo, there is a "hub firm" actively organizing the network out of supplier-buyer relations. In the strategic networks discussed in this paper, this central position is maintained by a hub-function whose relationships to the member firms normally do not involve business. The hub is usually an independent actor, paid from the strategic network's general funds. The hub is supposed to initiate and coordinate network activities and encourage the member firms to act according to the goals stated; it has however no formal means to make them comply.

The member composition of strategic networks differs. The number of participants varies from only a few to more than a hundred; the members may represent the same or various industries; the strategic network may have a precise goal or general goals; the members may meet personally seldom or often etc (Huggins 2000; Neergaard 2000; Nilsson and Nilsson 1992; Rosenfeld 1996). There may thus be major differences but there are still some general characteristics that most strategic networks have in common.

The main idea behind strategic networks is to strengthen and complement the functioning of the participants' ordinary business relationships by promoting relationship development among the member firms; those relationships would otherwise have been weak or non-existent. These new relationships are intended to bring the participating firms into contact with new knowledge, new potential exchange partners and render possible external economies of scale through joint actions like training programs and marketing efforts. While supplier-buyer relationships gradually develop out of business exchange, strategic networks have a formal starting point. They are initiated and designed by a limited number of founders, usually government employees, a few local firm managers or consultants. The design phase encompasses decisions on goals, number of participants, characteristics of participants, project administration, project financing, project lifetime etc. Only a few of the potential participants, if any, are usually involved in the design phase as the main idea is to gather firms that have had few previous contacts. The design may instead be influenced by requests from fund providers, like when administrative geographical divisions are used as borders limiting the scope of firms available as potential members of the strategic network. When the general frame for the co-operative project has been designed suitable firms in the region, usually small and medium-sized, are contacted and offered to participate.

Strategic networks are often created in order to contribute to the development of a certain district by supporting some of its firms. The member firms may represent similar or different industries depending on the goals set and the selection of firms in the design phase. These projects count in thousands in Sweden alone (IM-gruppen 2003) and have become popular tools for governments world-wide wishing to support firms within certain administrative borders (Huggins 2000; Neergaard 2000; Rosenfeld 1996) in accordance with the increased importance attributed to networks (Castells 1996). The participants often pay a low administrative fee per year but in addition there is usually financial support for the projects from local government, frequently in combination with funding from the European Union. These fund providers choose to encourage the development of new relationships among firms in hope of some of the positive effects reported from business relationships (Håkansson and Snehota 1989; Powell 1990; Uzzi 1997) and successful clusters (Lorenzoni and Ornatì 1988; Saxenian 1994).

Strategic networks are characterized by the distinctiveness of membership; there is a clear set of members and a distinct border. A limited number of participants enable frequent meetings among the members firms, of a formal as well as informal character. Most activities within the strategic networks thus have a dual purpose. Joint actions, like common participation in trade shows or in training programs, render possible external economies of scale. At the same time they constitute arenas for personal interaction that may lay a foundation for relationship development and knowledge exchange.

The term "strategic" in strategic networks refers both to the time dimension and to the importance and impact of membership effects. With regard to time strategic networks are generally designed with a

long-term perspective – although their formal life-span often is rather short. With regard to impact, the public sponsors of strategic network normally assess their intended effects as quite important as this concerns business development in the perspective of regional or national industrial policy. For the individual firms the decision whether to join the network or not, as well as the following decisions on how much time and effort to put into it, might not always seem as strategic ones. It depends upon how membership fits in with the strategies adhered to by firm managers as well as upon their personal attitudes towards co-operation and information sharing. Whether or not membership actually turns out to be of strategic character cannot be assessed *ex ante* which is consistent with the notion of strategies as emergent rather than intended. On the regional level, the desire is to develop a context that is advantageous for business development. This visionary context is often inspired by and modeled on inter-firm co-operation in clusters like the industrial districts of northern Italy.

Cluster advantages inspiring the formation of strategic networks

Different kinds of cluster advantages have been reported (Breschi and Malerba 2001). It has been argued that firms tend to gather in clusters in order to benefit from advantageous supplies of key inputs, for instance in the form of raw materials or a pool of skilled labor. Furthermore, there may be less transaction costs, like search and information costs, and increased trust as misbehaving will be immediately noticed by the community. Finally, there may be important learning effects and knowledge development processes as co-localized firms may share both explicit and tacit knowledge and develop their performance through bench-marking and interaction.

Maskell (2001, p. 927) uses the dichotomy of similarity and complementarity presented by Richardson (1972) for a distinction of cluster characteristics and advantages into a vertical, buyer-supplier, dimension “composed of firms with dissimilar but complementary capabilities that carry out complementary activities” and a horizontal dimension “consisting of firms with similar capabilities that carry out similar activities”.

A vertical dimension of complementarity

In clusters encompassing firms with complementary resources, there are several supplier-buyer relationships among the firms. The supplier-buyer relationships are particularly pronounced in the industrial districts where small and medium sized firms specialize in various steps of the production process of a particular industry and have the main part of their business exchange within the region. The main advantages reported from co-localized supplier-buyer relationships refer to decreased transaction costs and improved opportunities for adaptations and knowledge development because of the ease of interaction. Furthermore, new opportunities for task-partitioning may show that will increase the division of labor and firm specialization and thereby deepen the knowledge base (Maskell 2001; Porter 2000). There may however also be a negative side of this context as a well-developed network of strong relationships may tie a company to specific ways of operating and restrict its ability to change (Becattini 1991; Håkansson and Ford 2002; Izushi 1997).

A horizontal dimension of similarity

Although firms may be performing similar tasks their perceptions, insights and attitudes will still be varying. They do not have all-encompassing knowledge of the business network but will act within limited network horizons of various compositions. Furthermore they will have dissimilar experiences and divergent views on opportunities and limitations. Their activities and processes will thus vary and being able to observe and compare similar firms may have a strong impact on the opportunities and limitations identified by a focal firm. The constant comparisons will not by necessity develop isomorphism as an event will have different interpretations depending on the network horizons of the firms in question, their experiences, capabilities and resources at hand. Furthermore, firms do not have to duplicate; they may add or modify depending on their own circumstances and preferences. Maskell (2001) argues that for co-localized firms this process of observing, discussing and comparing is particularly pronounced:

The sharing of common conditions, opportunities and threats make the strengths and weaknesses of each individual firm apparent to the management, the owners, the employees and everyone else in the cluster who cares to take an interest (p. 929)

He furthermore asserts that the sharing of a communal social culture will make changes undertaken known as the information will leak out one way or another. “[A]s long as the firms share a common language and certain codes that ease their interpretation of local events, no trust is required as a prerequisite for learning” (p. 930). For co-localized firms there would thus not have to be any close contact or interaction for the processes of imitation and development to take place.

The firms’ horizons will never be identical, but a focal firm will scout for competitors and when new such are identified the network horizon extends to include them. Furthermore, the handling of similar resources and competences implies that firms in horizontal clusters will have several suppliers and customers in common. Taken together these circumstances will result in horizons and contexts showing a large degree of overlap. With common frames of references, stemming from the context overlap, the absorptive capacity will be high and interpretation and application of information facilitated.

Can strategic networks foster cluster advantages?

Strategic networks are inspired by cluster advantages but can their settings resemble cluster conditions and bring about cluster advantages? A context comparison between clusters and strategic networks will not provide the full answer to this question, but it may indicate probable outcomes. In some respects the conditions are given by the intrinsic nature of strategic networks but certain factors, like firm characteristics, are influenceable to a certain extent in the formulation of criteria for membership selection; the major limitation being the kind of firms available within a particular region.

The impact of firm characteristics for relationship types and membership effects

The analysis of cluster conditions indicates that the membership composition chosen for a strategic network will have a decisive impact on potential relationship types, and thereby on likely membership effects, for the participating firms. If strategic networks are composed according to any of the cluster characteristics presented above, the cluster advantages that have been described may show. When resources are complementary, the bringing together of firms with no or weak previous ties may result in forming of supplier-buyer relationships and extended network horizons. In strategic networks made up by firms with similar resources the member firms will already have rather overlapping network horizons to begin with. Major horizon extensions can thus not be expected. However, through improved opportunities for observing and comparing, competence development may take place. Furthermore, the member firms will become even more known and visible, thus making the contexts for action within the horizons more distinctive.

That strategic networks will correspond to any of these typifications are however not self-evident. Certain requirements have to be met.

Requirements for a vertical dimension of complementarity

Efficient business exchange requires specialization in the sense that resources received must differ from, and be regarded as more valuable than, resources given up. This goes for both parties in the exchange and can only be achieved with differential resources. The difference can however not be unrestricted. It is regulated by the receiving party’s ability to use resources received as a resource is valued on the basis of the allotted usage (Snehota 1990). The ability to evaluate and utilize resources will in turn depend upon the level of prior related knowledge as “prior knowledge confers an ability to recognize the value of new information, assimilate it and apply it to commercial ends” (Cohen and Levinthal 1990, p. 128). The receiver must therefore have enough knowledge of received resources to be able to use them more rewardingly than the resources that were traded in and there has to be some form of resource complementarity.

A high level of resource complementarity characterizes business relationships in the industrial districts. Such conditions are however less likely in strategic networks as complementarity is the cornerstone of business activity but not necessarily a requirement for participation in strategic networks. The degree of complementarity in strategic networks will vary but will generally be lower than in supplier-buyer

relationships as the basic idea is to aggregate firms without previous supplier-buyer relationships. The overlap in knowledge bases among member firms will thus often be limited; restricting the degree of specialized knowledge that can be exchanged and the opportunities for business exchange. The needs, aims and competences of the participants may be too far apart for co-operation or business exchange to develop. It can be argued that a disparate aggregation of competences may favor exploration and discovery of what was previously unknown but there is nevertheless a risk that the tangible or intangible resources available for exchange is too far off from the ordinary business of the potential recipient to be useful. There will however be common denominators in terms of shared business tasks like administrative routines, bank relationships and supplier relations. Disciplinary networks of practice (Brown and Duguid 2001) common to all member firms may thus bridge gaps by providing overlapping contexts and knowledge. However, while certain administrative tasks and professions, like manager and treasurer, will be found in all firms, some professions will be specific for certain production processes. Such actors may therefore lack counterparts in other member firms. Interaction within strategic networks will thus be facilitated when the participating firms have a minimum amount of knowledge overlap and when they are represented by actors from a common disciplinary network of practice.

Goals aiming at increased inter-regional trade may nevertheless be hard to achieve in strategic networks. An ongoing exchange relationship constitutes an investment and has a value that is not overcome by regional proximity only. Investments made and lessons learned in a particular relationship may not be transferable. Moreover, the knowledge and understanding that has been developed in a long-term relationship will not be present at the outset in a new relationship (Håkansson and Ford 2002). Firms are therefore often reluctant to break up from suppliers located in other regions in favor of local alternative suppliers encountered in a regional strategic network. For standardized transactions carried out at “arm’s length distance” price will be the main factor governing the choice of suppliers. In such cases, regional proximity will be of importance only when the prices offered are equal. However, a breaking up of previous supplier-buyer relationships is no requirement for extensions of network horizons. Learning about and forming social relationships with actors in previously unknown firms in a strategic network will be sufficient for extending the network horizon of a focal firm. New resources, capabilities and contacts will then become available, forming a new set of opportunities and limitations for future action. New business opportunities may then be perceived and acted upon through a development of new supplier-buyer relationships among member firms. A development may then take place towards increased task partitioning, extended division of labor and vertical differentiation resulting in increased specialization and a deepening of the knowledge base, in accordance with the vertical cluster dimension of complementarity argued by Maskell (2001).

Proposition 1

Strategic networks composed of firms with complementary resources tend to have a potential of reducing transaction costs, increasing specialization and extending network horizons for the members.

Requirements for a horizontal dimension of similarity

When firms have similar resources, carrying out “activities which require the same capability for their undertaking” (Richardson 1972 p. 66), the motives for business exchange diminish and the competitive aspect is enhanced.

There are strategic networks created within a particular business. These networks will have a higher degree of overlapping horizons than complementary strategic networks as competitors tend to keep informed about each other and each others businesses. They will also have suppliers and customers in common. The probability of horizon extension is therefore less than in complementary based networks. Firms in strategic networks created within a particular business will furthermore have a higher degree of overlapping knowledge. The common knowledge base will provide absorptive capacity and the actors may therefore compare themselves with each other and learn from each other in broad areas of business. Maskell (2001), referring back to Marshall (1890), argues that cluster advantages of variation would be very difficult to replicate within a single firm. The possibility to compare parallel experimentation and tests of various approaches should therefore be a major advantage of horizontal clusters as co-localized firms will be able to observe each other and compare ways of acting. Promising attempts would often be available for followers as a common social culture

would provide sufficient leaks of information according to Maskell. Firms would thus be able to imitate but in that process also add their own ideas and adaptations; a view in line with Porter's (1990) conclusion that rivalry fosters innovation. Maskell further argues that "as long as the firms share a common language and certain codes that ease their interpretation of local events no trust is required" as long as they are able to monitor each other "constantly, closely and almost without effort or cost" (p. 930). In other words, the main benefit of participation in strategic networks characterized by resource similarity may thus be increased mutual knowledge making the contexts for action more distinctive.

The conditions and codes discussed by Maskell (2001) are however not further specified and if not met in a strategic network context that kind of information would be hard to get without trustful relationships. To achieve enough trust among competitors for extensive knowledge exchange in only a few years time will be problematic unless the incentives are high (Meyerson, Weick and Kramer 2004). Furthermore, even when strategic networks are formed in a specific geographical region there may still be hampering geographical distances between firms if the administrative region is large, restricting the opportunities for interaction or observation. If, on the other hand, the region is small but densely populated the required conditions may not develop because of congestion effects.

In business relationships the geographical dimension is only one aspect of distance. Other important aspects are (Ford 2002):

- social distance: being unfamiliar with each other's way of working
- cultural distance: different norms and values
- technological distance: differences in product and process technologies

The geographical dimension has dominated the formation of strategic networks. However, even when the geographical distances between member firms are kept to minimum, important aspects of distance may remain and hamper interaction. In a particular region it can be argued that the cultural distance would be fairly low. However, in strategic networks with firms from many different lines of business the technological distance may be vast and cause social distance as well. In networks created among similar firms within a particular business the technological distance would be reduced as well; but technological and social distances will still remain as firms may be similar but never identical. In other words, cluster effects along the horizontal dimension will be possible to develop in strategic networks but are likely to be less extensive than in clusters with a pronounced horizontal character.

Proposition 2

Strategic networks composed of firms with similar resources tend to have a potential of creating increased knowledge spillover and learning effects that will sharpen the context distinctiveness of the member firms.

A mix of complementary, similar and dissimilar non-complementary firms

Regional development projects in the form of strategic networks are usually undertaken in less successful areas. The local composition of firms is therefore rarely of the pronounced vertical and horizontal dimensions of complementarity and similarity that characterizes clusters. Participants in strategic networks will thus interact in contexts that differ from the conditions found in successful cluster regions in several important aspects. Even if strategic networks are delimited by administrative geographical borders there may still be geographical distances between member firms that are vast enough to hamper personal interaction. Furthermore, resources available within a particular region may not correspond to the specific needs of a focal firm; resources and capabilities may be too far apart for supporting a development of vertical supplier-buyer relationships. In horizontally formed strategic networks the degree of similarity will vary depending on the availability of firms within the administrative border. Furthermore, the cultural and spatial setting may not fulfill the requirements for effortless information sharing described by Maskell (2001) and the development of trust will be hampered by competitive resource constellations. In a strategic network there may thus be a mix of firms: some similar, some complementary and some dissimilar and non-complementary in relation to the rest of the group. Such settings imply conditions that differ from the cluster dimensions in several important aspects and the integrating function, the hub, is therefore of crucial importance for the functioning of the network.

As most participants had a low degree of involvement in the nascent phase their commitment to the project can be expected to be rather low and it is up to the designers and, most of all, to the hub to try

to raise their interest and commitment for the networking idea underlying the strategic network. Without active involvement in network activities, participation in strategic networks will be a formality only. However, at the genesis of a strategic network the potential gains of active participation are hard to estimate for member firms, especially when lacking prior experience of this type of co-operative arrangements. The network hub thus has a crucial role. The hub has to motivate the participants to invest time and other resources in network activities while at the same time holding back their short-term pay-back expectations. It is tempting for a designer of strategic networks to form very ambitious goals at the outset in order to attract funding and participants. Ambitious goals will furthermore contribute to high expectations and thereby stimulate active involvement by the member firms. There is however a threat of backlash. If there are no visible short-term results the member firms will experience a large gap between expectations and outcomes and may withdraw or turn passive. The hub therefore has to strike a balance between short-term goals and activities that keep up commitment and more long-term goals that may have a more profound impact on resource development. Industrial districts are usually centered on a lead firm organizing production among a group of smaller firms, introducing technological innovations and expanding existing markets (Albino, Garavelli and Schiuma 1999; Boari and Lipparini 1999; Lazerson and Lorenzoni 1999). Hubs acting in strategic networks usually lack such business relationships to participating firms and have to use other means of influencing to make a difference, acting more like a marketer or broker. By appointing an independent hub, an attempt is made to smoothen and accelerate the process of relationship development. The hub initiates interaction and co-operation, taking the administrative burden off the participants; but it will at the same time make the network more bureaucratic. It may decrease the amount of initiatives taken by member firms as their ability to influence the activities is less direct. The individual firm's responsibility for the development of relationships and knowledge within the group is diminished.

As relationship development often is a time-consuming process proceeding through several stages (Ford 2002) the allotted period of time may be insufficient for development of relationships that are strong enough to become long-lasting. Furthermore, decisions regarding involvement in new relationships have to be handled with care as there is a "dark side" of relationships as well, characterized by Håkansson and Snehota (1998) in five points: unruliness (the loss of control), undeterminedness (the uncertain bet), energy (resource demanding), exclusiveness (the preclusion of others) and stickiness (a risk of unexpected requests). A wish to develop new strong relationships with other member firms is therefore not a self-evident stand for strategic network participants and even if favorable conditions would exist, the time may be too short for such a development to take place. However, the strategic networks lacking pronounced cluster characteristics may have their strength in the weak ties (Granovetter 1973). According to Granovetter, the stronger the tie between two actors, the more similar they will be in various ways and they will to a large extent have overlapping networks of connections. Having a large part of their networks in common it is likely that a certain piece of information will reach them at approximately the same point in time. On the other hand, a weak tie implies a limited overlap and the actors will be reached by different pieces of information at different points in time. An information exchange between parties connected by a weak tie will therefore presumably be more rewarding and imply opportunities to escape "a cognitive lock-in" (Grabher 2004, p. 533). However, the value of a new relationship will be dependent on the previous set of relationships of a focal firm (Ahuja 2000; Walker, Kogut and Shan 1997).

When new relationships span structural holes, they will increase information availability, the timing of received information and the number of references (Burt 1992). However, a spanning relationship does not have to be weak. Strong relationships have advantages. It is for instance more likely that information will be transferred in a strong tie. The drawback is that developing a strong tie is resource demanding and time-consuming. Strong ties formed during the administered life-time of a strategic network will therefore be exceptions rather than a rule. However, by providing opportunities for interaction new weak relationships may develop. Presuming that new relationships can be developed without causing the same amount of damage to previous relationships, some of the information and learning advantages attributed to clusters may arise. Furthermore, adding new relationships would extend the network horizon of a focal firm. Membership in a strategic network would then result in increased and improved access to resources like information. A focus on the development of weak ties underlines the importance of the strategic network as an arena for social interaction. Informal personal interaction will be a by-product of all activities in the strategic network but is worthy of specific measures as well. To allocate appropriate resources for cultivating personal ties, as well as business ties, is important in co-operative arrangements (Hu and Korneliusson 1997).

Finally, the participants may, through joint action, reach some of the transaction cost advantages of clusters. Joint procurement of for instance input materials or training programs may enable economies of scale that otherwise would be out of reach for small and medium-sized companies.

Proposition 3

Strategic networks with a mixed composition of members tend to have a potential of creating weak ties among the participants that will result in increased access to information and extended network horizons.

In summary, the group composition of a strategic network can be expected to markedly affect relationship development and likely membership effects. Three alternatives have been discussed (Fig. 1).

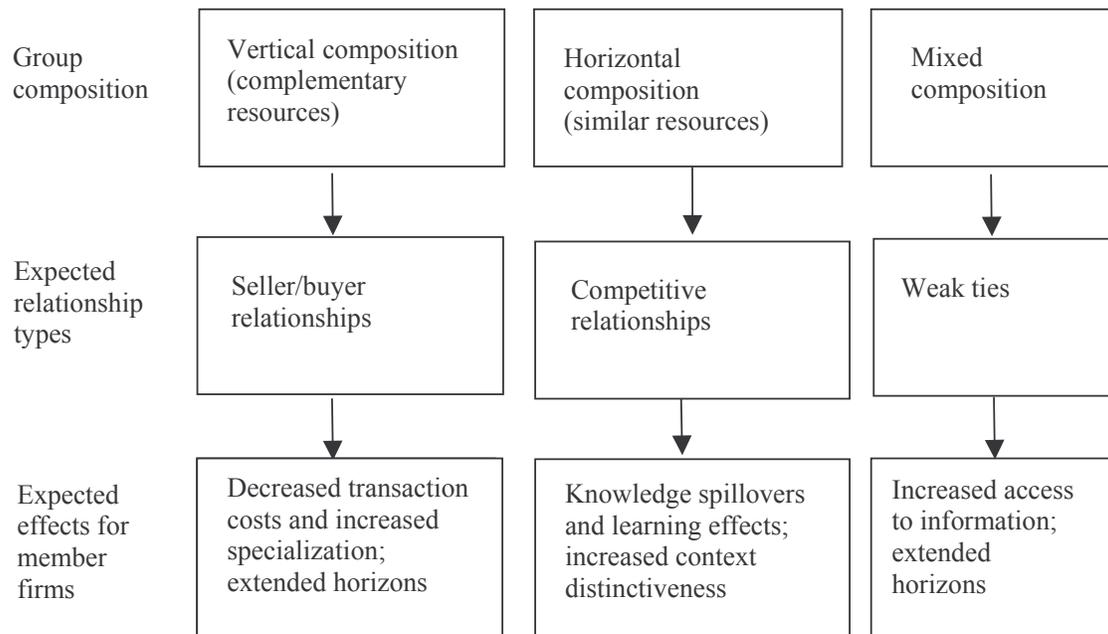


Fig 1. Expected relationship types and membership effects for firms participating in strategic networks with three types of group compositions.

Discussion

A positive development for firms participating in strategic networks is in turn expected to result in regional development in the geographic area in question; that development is however not self-evident. What is positive for a focal firm may be negative for the region, like when a firm, through discussions with other participants in a strategic network, learns how to outsource to low-wage regions in order to reduce costs. That kind of development will be beneficial for the firm in question but will reduce the regional employment opportunities.

In spite of the ambition to use geographical proximity as a membership criterion the actual physical distance between member firms does not have to be that large before spontaneous interaction is hampered. Still a geographical denominator may bring a common cultural base to the group, for instance based on common experiences of location in a sparsely populated district, which could facilitate interaction in the group. Furthermore, a shared interest in regional development may constitute a comprehensive foundation for co-operative approaches. Mutuality and trust is however far from given among the member firms in a strategic network. Except for cultural reasons, it may be present in the nascent stage or develop swiftly in case of prior relationships among member firms or if member firms, or the hub, have a positive reputation in the market (Lambe, Spekman and Hunt 2000; Meyerson, Weick and Kramer 2004). Long-term business relationships are, however, characterized by a mutual orientation (Easton 1992). Over the years, mutual knowledge develops and a long history of events provides opportunities for a gradual development of trust. The incidence and degree of mutual trust is thus a major differentiating factor between strategic networks and long-term business relationships in vertical clusters like the industrial districts.

A focal firm's activities within a strategic network will have to compete for attention and resources with activities in their external relationships. Participation in the strategic network will thus have an alternative cost that may be high while the pay-off from participation reside in the future and is hard to determine and evaluate. The firms have no formal ties and tend to give priority to their present relationships over the potential relationships offered by the strategic network, not willing to risk what they have in order to obtain something unknown. Financial incentives may therefore initially be necessary in order to stimulate active participation by members in a strategic network. However, external funds are usually limited to a certain period of time, in these kinds of projects usually 3 or 4 years. The strategic network initiative may thus come to an end before any strong and trustful relationships have had enough time to develop between member firms. The structure then tends to disaggregate when the external founding ends. This was interpreted as a failure in the evaluation of the Danish network programme (Neergaard 2000). However, considering the conditions implied by the setting this should not come as a surprise. If a transition phase has not been prepared, the cancellation of external funding may end the financial support for maintaining the hub-function. Without the driving force and coordination performed by the hub the activity level in the strategic network may decrease dramatically. Furthermore, firms in strategic networks may give priority to their own purposes and goals and give low priority to the continuation of the network as a whole and to the ambitions of fellow member firms. In a setting with several actors a specific activity may be very satisfying for some but be of minor value for others, a situation that will threaten to disintegrate the group. The sustainability of the original setting has therefore generally been fairly low (Huggins 2000). However, if measured in other terms there may be long-lasting effects and co-operative activities stimulated by the strategic network but carried out in other formats. It has for instance been observed that firms with positive experiences of co-operation tend to regroup and find new forms for their co-operation when a particular project has come to an end (Sandberg 2003). Addition of new relationships will extend the network horizons that set the scene of action in the participating firms. Some firms will find valuable pieces of information during informal small talk among member firms, information that will affect their future way of acting. Some firms will develop co-operative relationships like business exchange or sharing of production facilities when someone faces a peak in demand. Changes of this kind will have long-term effects although not being visible in form of a certain remaining structure like the original formal strategic network. For policy makers as well as for potential participants considering membership in a strategic network it is of vital importance that major presumptive membership effects are identified. After all, the purpose of the founders of strategic networks cannot be to once and for all establish a certain way of acting. In a constantly changing world the structures of co-operation have to change as well.

It has been reported that firms can learn how to handle co-operative relationships from prior experience of co-operative arrangements (Draulans, deMan and Volberda 2003). It is thus likely that the degree of prior co-operative experience among the member firms will affect the functioning and the outcome of co-operative initiatives proposed in a strategic network. Strategic networks are mostly directed towards small- and medium sized companies. It has been argued that such firms more often suffer from business isolation than more successful larger firms (Huggins 2000). If so, there is a reason for stimulating relationship development but the prerequisites will be more unfavorable than in settings including more experienced firms.

Conclusions

Regional development programs in the form of strategic networks are often inspired by an ambition to obtain business conditions resembling those that characterize clusters and thereby the advantages that clusters may bring to economic development. However, the settings designed for strategic networks seldom correspond to cluster characteristics. This is not surprising as regional problems rather than successful regional clusters normally constitute the starting point of strategic network programmes. Nevertheless, the composition of member firms is of importance for what can be achieved. If the member firms are positioned along a vertical buyer-supplier dimension, with complementary resources, new opportunities for exchange or task partitioning may occur within the strategic network. Furthermore, when an actor meets previously unknown member firms the network horizon will be extended. If the firms are similar in the sense that they are positioned on the same horizontal level in a certain business process, learning may take place through inter-firm comparison and knowledge exchange. In such cases the other member firms were probably known beforehand but increased mutual knowledge will increase the context distinctiveness. The possibility to gather suitable firms for such network settings will however be limited when firms have to be chosen from a certain geographical area only. The composition of member firms in strategic networks may therefore be rather mixed. Still, cluster advantages in terms of reduced transaction costs may be achieved through joint activities that facilitate external economies of scale. Furthermore, a development of weak ties between the member firms may have important informational aspects if the knowledge differences can be spanned. For this purpose, disciplinary networks of practice may serve as bridges and it is important that arenas and occasions for personal interaction are provided. However, the strategic networks have many faces. The membership criteria vary, and further research is needed on how this may affect outcomes.

REFERENCES

- Ahuja, Gautam (2000), "Collaboration Networks, Structural Holes, and Innovation: A Longitudinal Study" *Administrative Science Quarterly*, 45, 3, 425-455.
- Albino, Vito, Garavelli, Claudio A. and Schiuma, Giovanni (1999), "Knowledge transfer and inter-firm relationships in industrial districts: the role of the leader firm" *Technovation*, 19, 53-63.
- Anderson, James C., Håkansson, Håkan and Johanson, Jan (1994), "Dyadic Business Relationships Within a Business Network Context" *Journal of Marketing*, 58, 1-15.
- Becattini, Giacomo (1991), "Italian Industrial Districts: Problems and Perspectives" *International Journal of Management and Organization*, 21, 1, 83-90.
- Boari, Christina and Lipparini, Andrea (1999), "Networks within Industrial Districts: Organising Knowledge Creation and Transfer by Means of Moderate Hierarchies" *Journal of Management and Governance*, 3, 339-360.

Breschi, Stefano and Malerba, Franco (2001), "The Geography of Innovation and Economic Clustering: Some Introductory Notes" *Industrial and Corporate Change*, 10, 4, 817-833.

Bresnahan, Timothy, Gambardella, Alfonso and Saxenian, AnnaLee (2001), "'Old Economy' Inputs for 'New Economy' Outcomes: Cluster Formation in the New Silicon Valleys" *Industrial and Corporate Change*, 10, 4, 835-860.

Brown, John Seely and Duguid, Paul (2001), "Knowledge and Organization: A Social-Practice Perspective" *Organization Science*, 12, 2, 198-213.

Burt, Ronald S. (1992), *Structural Holes, The Social Structure of Competition*. Cambridge MA: Harvard University Press.

Castells, M. (1996), *The Information Age: Economy, Society and Culture*. Oxford: Blackwell.

Cohen, Wesley M. and Levinthal, Daniel A. (1990), "Absorptive Capacity: A New Perspective on Learning and Innovation" *Administrative Science Quarterly*, 35, 128-152.

Draulans, Johan, deMan, Ard-Pieter and Volberda, Henk W. (2003), "Building Alliance Capability: Management Techniques for Superior Alliance Performance" *Long Range Planning*, 36, 151-166.

Easton, G. (1992), "Industrial Networks: A Review" in *Industrial Networks: A New View of Reality* Axelsson, B. and Easton, G., eds. London: Routledge, 3-27.

Feldman, Maryann P. (1999), "The new economics of innovation, spillovers and agglomeration: a review of empirical studies" *Economics of Innovation & New Technology*, 8, 5-25.

Feldman, Maryann P. (2001), "The Entrepreneurial Event Revisited: Firm Formation in a Regional Context" *Industrial and Corporate Change*, 10, 4, 861-891.

Ford, David (Ed.) (2002) *The development of buyer-seller relationships in industrial markets*, Thomson Learning, London.

Grabher, Gernot (2004), "The Weakness of Strong Ties: The Lock-in of Regional Development in the Ruhr Area" in *Networks*, Vol. 1, Grabler, G. and Powell, W. W., eds. Cheltenham: Elgar Edward, 527-549.

Granovetter, Mark (1973), "The Strength of Weak Ties" *American Journal of Sociology*, 78, 6, 1360-1380.

Holmen, Elsebeth and Pedersen, Ann-Charlott (2003), "Strategizing through analyzing and influencing the network horizon" *Industrial Marketing Management*, 32, 5, 409-418.

Hu, Ying and Korneliusson, Tor (1997), "The Effects of Personal Ties and Reciprocity on the Performance of Small Firms in Horizontal Strategic Alliances" *Scandinavian Journal of Management*, 13, 2, 159-173.

Huggins, Robert (2000), *The Business of Networks: Inter-firm interaction, institutional policy and the TEC-experiment*. Aldershot: Ashgate Publishing Ltd.

Håkansson, Håkan and Ford, David (2002), "How should companies interact in business networks" *Journal of Business Research*, 55, 133-139.

Håkansson, Håkan and Snehota, Ivan (1989), "No Business is an Island: The Network Concept of Business Strategy" in *Understanding Business Markets* Ford, D., eds. London: The Dryden Press.

Håkansson, Håkan and Snehota, Ivan (1998), "The Burden of Relationships or Who's Next?" in *Network Dynamics in International Marketing* Naude, P. and Turnbull, P. W., eds. Oxford: Elsevier Science.

Håkansson, Håkan and Waluszewski, Alexandra (2002), *Managing Technological Development - IKEA, the environment and technology*. London: Routledge.

IM-gruppen (2003), Halvtidsutvärdering av Växtkraft Mål 3, In

Izushi, Hiro (1997), "Conflict Between Two Industrial Networks: Technological Adaptation and Inter-firm Relationships in the Ceramics Industry in Seto, Japan" *Regional Studies*, 31, 117-129.

Jarillo, J. Carlos (1988), "On Strategic Networks" *Strategic Management Journal*, 9, 31-41.

Lambe, Jay C., Spekman, Robert E. and Hunt, Shelby D. (2000), "Interimistic Relational Exchange: Conceptualization and Propositional Development" *Journal of the Academy of Marketing Science*, 28, 2, 212-225.

Lazerson, Mark H. and Lorenzoni, Gianni (1999), "The Firms that Feed Industrial Districts: A Return to the Italian Source" *Industrial and Corporate Change*, 8, 2, 235-265.

Lorenzoni, Gianni and Ornati, Oscar A. (1988), "Constellations of Firms and New Ventures" *Journal of Business Venturing*, 3, 41-57.

Marshall, A (1890), *Principles of Economics*. London: Macmillan.

Maskell, Peter (2001), "Towards a Knowledge-based Theory of the Geographical Cluster" *Industrial and Corporate Change*, 10, 4, 921-943.

Meyerson, Debra, Weick, Karl E. and Kramer, Roderick M. (2004), "Swift Trust and Temporary Groups" in *Networks*, Vol. 1, Grabher, G. and Powell, W. W., eds. Cheltenham: Edward Elgar, 507-536.

Neergaard, Helle (2000), "Networks as Vehicles of Internationalization: Network Relationships and the Internationalization Process of Small Furniture Manufacturers" Department of International Business, The Aarhus School of Business

Nilsson, K. and Nilsson, P. (1992), "Småföretag i flerpartssamverkan: En studie av aktörer, byggstenar och fogmassa vid nätverksbyggande" doctoral dissertation, Samhällsvetenskapliga fakulteten, Umeå Universitet

Nilsson, Tommy (2004), Arrangerade nätverk för kompetensutveckling - fackets roll i lokalt utvecklingsarbete, In (Ekstedt, E.), *Arbetsliv i omvandling*, 2004:6, Arbetslivsinstitutet, Stockholm

Porter, M. (1990), *The Competitive Advantage of Nations*. London: Macmillan.

Porter, Michael E. (2000), "Location, Competition, and Economic Development: Local Clusters in a Global Economy" *Economic Development Quarterly*, 14, 1, 15-34.

Powell, Walter W. (1990), "Neither Market nor Hierarchy: Network Forms of Organizations" *Research in Organizational Behavior*, 12, 295-336.

Richardson, G. B. (1972), "The Organization of Industry" *Economic Journal*, 82, 883-896.

Rosenfeld, Stuart A. (1996), "Does Cooperation enhance competitiveness? Assessing the impacts of inter-firm collaboration" *Research Policy*, 25, 247-263.

Sandberg, Eva (2003) *The Social Construction of a Strategic Network - Mapping out the Micro-processes*, 17th Nordic Conference on Business Studies, Reykjavik, Iceland

Saxenian, AnnaLee (1994), *Regional advantage: culture and competition in Silicon Valley and Route 128*. Cambridge, Mass.: Harvard University Press.

Snehota, Ivan (1990), "Notes on a Theory of Business Enterprise" Department of Business Administration, Uppsala University

Uzzi, Brian (1997), "Social Structure and Competition in Interfirm Networks: The Paradox of Embeddedness" *Administrative Science Quarterly*, 42, 35-67.

Walker, Gordon, Kogut, Bruce and Shan, Weijian (1997), "Social Capital, Structural Holes and the Formation of an Industry Network" *Organization Science*, 8, 2, 109-125.