

The role of email communication in strategic networks: patterns observed over time

Edith Andresen

Edith.Andresen@miun.se

Anette Bergman

Anette.Bergman@miun.se

Lars Hallén

Lars.Hallen@miun.se

Mid-Sweden University, Department of social sciences, SE-85170 Sundsvall, Sweden

Abstract

Based on samples of incoming and outgoing emails from the hub in a strategic regional network communication patterns are analysed over time with respect to communicating actors (who are the senders and recipients of the emails), communication frequency (how many emails are sent to and received from different kinds of recipients in different periods) and information content. The data analysis indicates that an explicit IT strategy was insufficient to ensure efficient communication, and that email functioned better as a complementary medium in addition to face-to-face contacts than as a solution for communication and relationship building in a strategic network under development.

Keywords: email, communication strategy, strategic networks, relationship building

1 Introduction

Firms cooperating in various constellations with other actors in the private and public sectors, be it other business firms, organizations, state agencies or universities, are generally believed to reap benefits from such cooperation, although the empirical evidence of this assumption is unclear. Based on such an assumption many efforts have been made during the last decades to create relations between firms in order to produce synergy effects, e.g., in terms of innovations, new businesses, job opportunities and ultimately growth.

Regional strategic networks have become an important tool for the promotion of regional development by strengthening the competitive advantages of companies through inter-firm cooperation and joint learning. The regional dimension of regional strategic networks implies that the network is confined to operate in a specific region with a focus on its trade and industry. In the definition by Jarillo (1988) strategic networks are seen as purposefully designed cooperation ventures mainly between small and medium-sized firms. These networks are governed by a company or a group of companies, a public agency, or some other organization or individual in order to help the firms to reach their goals by providing them with resources such as information, technology, markets, or knowledge.

Regional strategic networks are built around a centre, often called a hub, made up of a couple of persons who are responsible for achieving the objectives of the strategic network and for the use of the funds provided by public national or international agencies and collected through membership fees. Together with other stake-holders, such as local government agencies, research institutes, or industry associations, the hub is responsible for acquiring

renewed funds for the strategic network. As a leader, rule setter and capability builder the hub can be expected to contribute to structuring, strategizing, and the value creation processes of the participants (Lorenzoni & Baden Fuller 1995).

Usually, most of the members of a strategic network do not have active business or social relationships to each other at the network start. As cooperation success is supposed to be a function of the quality of the relationships between the actors (Glaister & Buckley 1999 in Ireland et al. 2002) an important task of the hub is consequently to encourage the establishment of relations between member firms. Relationships are built on sequences of interaction episodes (Håkansson 1982, Holmlund 2004) and comprise complex patterns of information exchange (Blankenburg et al. 1997). Communication, i.e., the process of exchanging information and making it common to the parties of the exchange, has an important role in creating and preserving relationships (Christensen & Kempinsky 2003). The hub's communication behaviour is therefore significant for the development of the regional strategic network.

According to DeSanctis and Monge (1999) there is a considerable risk of controversies in organizations where communication takes place across social and organizational boundaries. This can be expected to create a communication environment characterized by high relationship diversity. It is important that managers regard communication with a sense-making approach and consider communication as a process through which a shared culture is created, modified and transformed (Axley 1984 in Johansson 2003, p.23-24).

The choice and management of communication media is thus important for the development of relations in regional strategic networks (Andresen et al. 2003, Bergman & Ohlsson 2005).

Communication processes have been deeply affected by the development of information technology, not least for the business community. Impersonal IT-based communication channels have become the cornerstone of many business relationships (Naudé & Holland, 1996). The informal character of email allows easy and unpretentious communication (Simonsson 2002), which may be well suited to the rather loose and informal ways of acting in many regional strategic networks. Although regional strategic networks are confined to specifically defined areas, the member companies are often geographically dispersed within the regions where they operate.

Strategic networks share several of the characteristics of virtual organizations. Like those, they can be seen as “a temporary network organization, consisting of independent enterprises that come together swiftly to exploit an apparent market opportunity” (Kasper-Fuehrer & Ashkanasy 2000). This also makes email a suitable medium to use. Consequently, email communication can be expected to play an important role in these networks.

The electronic way of communicating differs from other communicative practices. Increasing the use of electronic communication at the expense of meetings face-to-face can be expected to affect the interaction between companies and the development of their relationships. Already by moving the information exchange from face-to-face to audio contact, communication between participants has been found to become more psychologically distant, more depersonalized, more task oriented, less spontaneous and less collaborative (Rutter 1984 in Leek et al. 2003). Email communication may represent one step further along that line.

However, there has only been little systematic data collection and research on how the actors in regional strategic networks use email. Particularly the hub's communication behaviour needs further investigation. Studies of the communicating actors, the kind of information exchanged, and the contact frequency constitute a starting point of the present study of relationship development through communication in regional strategic networks. When studying email communication in regional strategic networks, it seems reasonable to believe that such patterns of communication reflect the network communication processes and in the long run also the development of network related relationships. Such knowledge of how email is used in regional strategic networks has practical implications, since this may benefit both those who establish strategic networks and those who work in networks and those who assess their activities.

The purpose of this paper is to map the communication patterns of the hub in a regional strategic network over time. The communication patterns are described in terms of the identity of the communicating actors, the communication frequency and the kind of content in their emails. The communication pattern is supposed to affect the development of relationships in regional strategic networks. The paper deals with the first step in this chain.

2 Theoretical framework

2.1 Regional strategic networks

Regional strategic networks are often set up as a consequence of the allocation of specially designated financial resources. These resources may derive from the development funds of the EU, national governments, local government (counties), municipalities, private funds and combinations of these. The funds for the regional strategic networks are normally made available for a specified period of time, i.e., as for a project, but it is expected that the activities should produce effects with impact beyond this time limit. The member firms should continue to cooperate further on.

Some regional strategic networks are organized as member-owned companies with an overall responsibility for results. Others are more loosely organized. In both cases the main reason for setting up these networks is to create collaboration between small and medium-sized companies in order to gain competitive advantages, joint learning, or innovations, in order to promote business and employment.

Regional strategic networks are created by their initiators as distinct entities with a formal organization structure. This implies that the boundaries of the network are distinct and defined, e.g., by a membership list. Some networks are set up as legally defined entities, whereas others may be more loosely organized as voluntary associations. Through the regional strategic network its members may coordinate resources, reduce uncertainty, increase capacity, and obtain higher flexibility (Child & Faulkner 1998).

2.2 The hub as manager of relationship development

The establishment of regional strategic networks normally requires that a unit is created with responsibility for designing the network and accomplishing the network aims. This unit is referred to as the hub of the strategic network. To some extent it operates like a business manager, and in that context the member companies can be regarded as divisions and branches. The hub in a regional strategic network often consists of one or a couple of persons working either full-time or part-time for the network, sometimes in parallel with other jobs in the regional or local administration or in the private sector (Andresen et al. 2003).

In addition to its task to fulfil the specific purpose of the regional strategic network, the hub's main assignment is to coordinate the member companies and promote the establishment of relationships between them. However, relationship development is time consuming. Stable relationships generally occur only after many years of interaction (Håkansson & Johanson 2001). In regional strategic networks where the member companies initially often have no strong relationships to each other, the development will be even more time consuming and complicated.

Network interaction might eventually lead to a gradual interlocking of the companies involved (Håkansson & Ford 2002). To a large extent such relationship development is not based on formalized agreements but on mutual trust. Trust is believed to be of crucial significance for network relationship development (Morgan & Hunt 1994) in general, and trust is of particular importance when member companies are supposed to share knowledge and collaborate – as in strategic networks. To support the establishment of relationships between actors – unknown to each other and sometimes even competitors – the hub needs to arrange activities encouraging commitment and trust.

Building trust is a social process, which normally is believed to require face-to-face meetings. It is possible that the advent of the new information technology which has reduced the frequency of such personal meetings between companies might imply “increased task orientation, less compromise and less personal interaction and collaboration leading in turn to decrease in trust, commitment and openness” (Leek et al. 2003). Other dimensions of the relationship will also be affected by emergent electronic information exchange and less frequent face-to-face meetings. When impersonality and formality increases, few opportunities occur for the establishment and securing of contacts and relations. Eventually this might generate a situation with lack of close relationships making problems harder to resolve, which in turn might influence all aspects of the business interaction. Having this in mind attention is drawn to the interplay between different communication methods in relationship development, when mutual trust is required, e.g., when confidential information is to be exchanged. The development of relevant and reliable communication is consequently a field that needs support, as is the creation of mutual working methods and sets of values (Thyberg et al. 2006).

Organizing and managing regional strategic networks has proved to be a highly qualified management task, as the mission is demanding and complex due to the lack of formal authority and the need for commitment amongst the network actors. In this sense, it resembles the handling of business-to-business relationships more than the management of a company. The hub has to apply a governing style that creates trust, motivation and commitment amongst the participating actors. Observations from regional strategic networks illustrate the difficulties in organizing and managing the network activities, which might be interpreted in the light of the complexity of the task and the lack of relevant experience in the hub. It is difficult to manage organisations without access to formal authority (Thyberg, et al 2006), and managing network development as a hierarchical process is likely to create counterproductive effects (Waluszewski 2004).

The complexity of the management task is also related to the multiplicity of expectations, demands, relations, actors, resources and activities that are involved in a regional strategic network. Thus, the hub has to apply a process perspective when managing the interorganizational relationships as this has important implications for performance (Guth et

al. 1982 in Ring & Van de Ven 1994). These processes also influence the motivation to continue in or terminate the relationship (Friedman 1991 in Ring & Van de Ven 1994).

2.3 Email communication

Numerous firms, especially those that are large and geographically dispersed, have turned to electronic communication such as email. Many practitioners as well as researchers believe that the use of this medium for intraorganizational coordination increases personal and organizational productivity. Email, however, is a medium with new characteristics. It is defined as a medium which “uses computer text-processing and communication tools to provide a high-speed information exchange service” (Sproull & Kiesler 1986). It seems to be an especially effective way of quickly involving many recipients (and even in different time zones) in complex interaction performed any time around the clock. While transmission speed in email may be nearly instantaneous, timeliness of response is not inherent in the medium but depends on the behaviour of the recipient. Email is not always the most convenient medium. A very down-to-earth problem is the need to type out the message. Typing long messages in email can be time-consuming and awkward. On the other hand, messages that are sent by email can be saved and retrieved for later reference.

Like regular mail, email is a written and asynchronous medium, but it is much faster than paper-based written communication, which brings it closer to synchronous media. Together with face-to-face meetings it shares the feature of multiple addressability, one example being the ability to reach many persons simultaneously. Although multiparty telephone conferences also share this feature those are technically more awkward, and the phone is clearly inferior in this respect. Together with the unique feature of its computer-searchable memory this provides email with capabilities not found in traditional media giving it great potential value in equivocal communication despite its lack of richness. Email would clearly rival, and might even exceed, traditional communication media like the telephone, which however has an advantage compared to email in transmitting social cues. Rice (1994) claims that email might complement other network communication and provides more diverse, participative, and less formally aligned relations.

How communication media are used is not only a matter of communication technology but also of the social definition of the media. Fast communication via a medium requires that communicators routinely respond quickly to the communications initiated by others. The pattern of responsiveness in the use of a medium is an important part of what makes the medium rich. This is not technologically but socially determined. When deciding which medium to use, the sender will have to consider which medium the receiver uses. It is beneficial to have a medium in which anyone in the organization can be reached (a universal access medium) because this saves the need to find the medium through which partners can be reached or using multiple media to convey a single message to different parties. Although many organizations have adopted email the share of employees of these organizations that use email may vary considerably. An important factor for making email a universal access medium – in addition to the access to computers – is typing skill. It is sometimes claimed that senior managers as well as managers of small companies might lack such skills.

According to Yates et al. (1999) members in a social unit are believed to develop shared norms about how and why a technology should be used. Also in institutional theory appropriateness evolves from social organization rather than from the behaviour of the individual. Different perceptions and uses of a technology tend to converge over time when

social units interact or participate in the same culture. The use of media will therefore differ across social units.

Ideas and impressions of others and the amount and kind of relational communication will develop and change through electronic communication (Chidarbaram 1996, Hollingshead et al. 1993, Walther 1995 in DeSanctis & Monge 1999). Longer-term interactions tend to improve message understanding and deepen interpersonal relationships. The evolution of relationships in the context of electronic communication occurs both in the small of individual relationships and in the large of entire communities. It may be that electronic communication products, such as conversations and documents stored in knowledge repositories, can provide stability to otherwise tenuous relationships (DeSanctis & Monge 1999).

Some studies show that people take longer time to form impressions of one another when conversing electronically because it is time-consuming to decode social cues (Sproull & Kiesler 1986, Walther 1993 in De Sanctis & Monge 1999). Referring to Keen (1991) Ford argues that “IT has altered not only the physical communication methods used but also the range of information and depth of information exchanged; therefore, it is also feasible that as a result the relationship atmosphere itself has changed”.

Thus, managers should be aware of the depersonalizing character of electronic communication and the tendency that communication might tend to become less compromising and increasingly task oriented. Depending on the task at hand, companies need to consider what method of communication to use. Face-to-face meetings would possibly be the most appropriate method for negotiations, particularly if the company is in a weak position. Increased use of information technology thus has an impact on how relationships are managed.

Turnbull (in Leek et al. 2003) argues that the “IT revolution” dramatically has enhanced the ways and speed by which intraorganizational communication occurs and is managed, as managers have access to various communication formats. However, there has been little research into the adoption of these different technologies, how they are used and also what impact they have upon business relationships.

2.4 Managing communication

Johansson (2003) argues that managing communication based on a transmission perspective is more common amongst Swedish executives than management according to a sense-making perspective. Communication in companies is thus not merely a question of the technical transfer of information. It implies complicated social interaction due to the existence of social relations between the actors. The organizational structure affects the communication process. Sandberg and Targama (1998) claim that managers generally only have vague ideas of the implications of communicational understanding and are therefore unfamiliar with how communication develops, influences and shapes the competence of individuals in organizations. As understanding is regarded as a starting point for individual action in organizations, managers need to develop and maintain common understanding amongst the co-workers in order to obtain efficient performance. The management assignment is to govern by means of visions and ideas enabling individual initiative and use of inherent competence and ability (Johansson 2003).

The existence of authority in organizations affects communication as the communication between equals differs from the one between managers and employees. A manager cannot

transfer his interpretation of a situation to the staff as these need to integrate such an interpretation into their own understanding. “Horizontal exchanges between organizational equals are less subject to distortion, because peers share a common frame of reference” (Rogers & Agarwala-Rogers 1976 in Johansson 2003, p. 34). Thus, communication is a complex process within organizations subject to formal authority. Considering the less formal structure characterizing strategic networks, how can individual attention be attained and to what extent do communicational behaviour and patterns of managers in formal organizations resemble those of the regional network hubs?

3 Dimensions of communication patterns

Several dimensions of communication patterns can be identified. Three main dimensions are identified here: communicating actors (who communicates with whom), information content (what information is communicated), and communication frequency (how often is the information transmitted). These dimensions are used in the subsequent analysis of the empirical case data.

3.1 Communicating actors

Actors constitute an integral part in most network models. These actors may be individuals, groups of individuals, public agencies, parts of companies, entire companies, or an assembly of companies. In the actors-resources-activities model of business networks (Gadde et al. 2003, p. 362) the actors control the resources of the network, and their function may be defined in terms of the resources they have been able to mobilize and the activities in which they are involved.

Thus, in business networks the actors are seen to have a purposeful orientation towards control over resources and activities. This includes control over knowledge development through activity-related network experiences (Håkansson & Johanson 1992). The actors in business networks are connected through relationships of various strength and intensity, but no firm can control the network.

As mentioned previously, the coordinating actor in a regional strategic network (the hub) shares some characteristics with those of a firm manager. From the network point of view the hub is an actor in another meaning. Still, it is relevant to keep the conception of resources and activities as the domain of action of the actors. The involvement of the network participants in the regional strategic network can be regarded as similar to commitment in business networks: control of activities and resources for business purposes, e.g., profit, growth, development, or independence.

The participants in regional strategic networks may choose membership for many reasons. Networking for social purposes, i.e., seeking new relationships for individual development and wellbeing, is an obvious reason. Networking for business purposes is related to marketing strategy, as membership can be seen as a way to create conditions for the increase of sales and profit. A third reason is associated with a wish to contribute to regional development in order to secure welfare and living conditions.

The actors in a regional strategic network are engaged in exchange activities of various kinds. These activities create a need of communication. The communication between the actors – who communicates with whom – forms our first aspect of the communication pattern.

3.2 Information

The content of the communication between the actors – information – forms the second aspect of the communication pattern. A common categorization of information in industrial networks distinguishes between technical, commercial and administrative information (Gadde & Håkansson 1993). Technical content describes the product, or the seller's ability to resolve a problem the buyer may have. The more complex the technical details, the more comprehensive are the contents. If the technical contents are complex, specific or detailed the actors may prefer to communicate by written contracts (Sahlin 2005) or face-to-face. If the contents are simple, email communication may be appropriate. Commercial content refers to the commercial terms negotiated before the decision to buy is made, i.e., the information the buyer requires to make the order: price, discounts, terms of delivery and payment (Gadde & Håkansson 1993). Administrative content refers to the transaction structure, e.g., appointments, volumes, methods of delivery, formal rules and routines. The characteristics of information contents also affect how and by which medium the actors communicate.

In communication studies other aspects on the information are also used with a more direct focus on the messages by which the information is relayed. Thus, in addition to information contents Markus (1994) also specifies situational and symbolic aspects on the information.

The contents of the messages influence if and how trust evolves. If an actor decides to share confidential, private or unique information, the recipient might feel privileged in a way that is conducive to the emergence of a trustful relationship. A previous analysis of the data on email communication in a regional strategic network (Andresen et al. 2003) showed that hardly any specific information of such character was exchanged between the network members. Face-to-face communication is normally seen as more appropriate for transferring sensitive information. However, if the contents of the message are tailor-made to suit the needs and interests of the recipients, this might influence trust if the adaptation is regarded as significant. If the contents are of a standardized or common character they will fail to attract attention, but adapted contents would not only be more effective but might also help to initiate a process of creation of trust (Järvenpää & Leidner 1998).

Weick (1995) discusses communication problems in terms of uncertainty and diversity. Remaining uncertainty or ignorance of the meaning of the message on the side of the recipient of the message implies that the message has not gone through, which in turn is a result of the contents not being adapted to the recipient's situation. This might even entail the absence or lack of information in the contents, for instance that only a fraction of an important message is communicated. Diversity might denote that the recipient does not know which information to give priority to, or that the same information could be interpreted in diverse manners. This problem can be solved by means of additional information or interpretation rules (Simonsson, 2002).

Content analysis is an overall accepted method of textual investigation and particularly in the field of mass communication (Silverman 2001). The method enables researchers to analyze content in all kinds of documents. It follows a logical and relatively simple procedure – comprising choice of relevant text, modifying it into minor units, compiling appropriate data categories, coding, etc. (Denscombe 2000, p. 199-200). The crucial requirement that needs to be addressed in content analysis is to create categories sufficiently precise to enable different coders to arrive at the same results when the same body of materials is examined. Content analysis method allows the possibility of revealing “hidden or tacit” aspects of what is communicated through the written text. Silverman (1993) argues as Denscombe (2000) that

particular attention should be paid “to the issue of the reliability of its measures – ensuring that different researchers use them in the same way – and to the validity of its findings – through precise counts of words used” (Silverman 1993, p. 59). The disadvantage of the method is, however, that when being based on a given set of categories it may “furnish a powerful grid from which it is difficult to escape deflecting attention away from uncategorized activities” (Silverman 2001, p. 123).

3.3 Communication frequency

Communication frequency is the third dimension of the communication pattern. A previous analysis of email communication in a regional strategic network (Andresen et al. 2003) indicated that the abilities and skills of the hub in using email and computers influenced the communication frequency and consequently also the number of emails. Findings from other studies have shown that it is important for the actors to meet face to face in order to establish relations, which further encouraged the use of email (Sproull & Kiesler 1986).

How often actors communicate with each other influences the prerequisites for the creation of trust (Anderson & Narus 1990, Järvenpää & Leidner 1998). Only little communication is required just to keep the contact between two actors, but in order to secure coordination and to strengthen relationships more frequent communication is needed.

Through frequent communication and interaction the actors get to know each other and their sets of values. Thus, shared values may be developed, which in turn may contribute to the creation of trust between the actors (Morgan & Hunt 1994). However, too much communication may overload the members of the organization and have a dysfunctional effect (Guetzkow in Mohr & Nevin, 1990). It is therefore important to observe how often the actors have contact with each other related to the communication needed for effective execution of the required activities. The choice of media might also have an impact. Too many messages through an inappropriate medium may harm the chance to develop trustful relationships.

According to Mohr & Spekman (1994) the means of communication and their suitability also influence trust, which illustrates the significance of communicating an appropriate amount of correct information at the right time. Unexpected and irregular communication tends to reduce the possibilities to create trust (Anderson & Narus 1990, Morgan & Hunt 1994, Järvenpää & Leidner 1998). Inconvenient and improper communication might confuse the recipient if he is unaware of the counterpart’s intentions. It might be difficult for actors who do not know each other or do not share norms to recognize which communication is proper and suitable.

Communication might be more frequent when trust exists between the actors than if it does not (Mohr & Nevin 1990), particularly when it comes to informal communication as the actors have less ambition and need to communicate if trust is absent. This displays the processual relation between communication and trust.

4 Method

4.1 Data collection

Two pilot studies of a regional strategic network in Sweden were conducted in 2001 and 2002. The network started as a project financed by a couple of governmental organizations in 1998. It comprised 150 small and medium-sized member companies in the manufacturing and engineering industry. Its purpose was to create cooperation between subcontractors in the

region as well as between the subcontractors and their customers by developing and implementing structured methods for products and product innovation across functional production teams.

The regional strategic network was initially built as a kind of virtual organization with a website constituting a common arena for communication. Despite an investment of SKr 2mn the network did not achieve the aim of making this communication arena fully operative. The initial lack of equipment, knowledge and motivation related to the employment of email and the Internet was bigger than expected, and although considerable efforts were made to address this problem it was never satisfactorily resolved. However, at the time of the pilot study, 85 % of the actors in the network used email at least once a day and 80 % regarded the Internet as a natural part of today's business world.

The project was transformed into an incorporated economic association in 2001. The number of member companies had by then decreased to 60. Between 1998 and 2003 the network generated ten new products, which was considerably below expectations.

4.2 Data analysis

In order to study how the hub in the regional strategic network communicated through email, the messages that were sent out from the hub and received by it through email during October 2000, October 2001 and October 2002 were selected. For the analysis in the present paper the data from 2000 and 2001 are used. The inbox and outbox include all email communication of the relevant periods. Some private emails remain in the data material, but other messages can have been deleted according some rule. It is not absolutely certain that the data represent all aspects of the communication behaviour, but there is no specific reason to expect any systematic bias.

The emails were analyzed qualitatively according to a holistic and common-sense perspective. The holistic perspective implies that the messages in the emails were interpreted in relation to their context, coherence and embedded intention. When applying a common-sense oriented interpretation method, the frame of comprehension might be broader than the one employed by the respondent, which in turn enables an expanded and enriched interpretation. Common-sense can be used as an initial resource to understand interaction (Silverman 1993, p. 182) and the possibility to interpret what exists between the lines or embedded in the messages (Andersen 1998, p.194).

Qualitative method is time consuming and hard to survey due to the close connection between the formation of the concepts, categorization, analysis, interpretation and collection of data. There is a lack of method guidelines or standard approach illustrating the way of procedure, which challenges the researchers' innovativeness (Silverman 1993, p. 23). By combining a qualitative and quantitative approach in the data analysis some of these difficulties were overcome.

4.2 Operationalisation of the communication dimensions

Many different indicators can be used to capture communication activities (Silverman 1998, p. 81). By starting with the emails in the inbox and outbox of one of the members of the hub and making a sample of 100 emails from October 2001 the dimensions that were delineated in section 3 above were obtained. The categories that emerged (communicating actors (senders/recipients), information (message contents), and communication frequency) were thereafter tested on an additional 100 emails examining their functionality.

More specifically, the following aspects were recorded.

- Communicating actors (network members or external parties such as companies or other interested parties looking for assignments, cooperation, information or business opportunities). The following actors were identified:
 - *the regional strategic network management* (i.e., the hub)
 - *the member companies*
 - *the virtual arena* (the web portal)
 - *the authorities* (in their function either as interested parties or financiers)
 - *trade and industry people* (either as interested parties, possible new member companies or cooperating partners)
 - *consultants* (looking for assignments)
 - *private contacts* (not related to the strategic network but present in the mailboxes)

- Information contents:
 - *network project organization* (including subjects relevant to the organizing process) which might also be regarded as part of a broader administrative category
 - *project collaboration* (activities implying cooperation with other projects, networks and associations) which might fit under a wider and social category but also in an administrative category, as its activities supplies prerequisites for continuous networking
 - *internal network information* (a category comprising *strategic management issues, common information and records*) which altogether might be classified into the broader administrative category
 - *external information* (divided into *formal* activities as for example seminars or lectures and *informal* activities such as meetings aimed at information transfer to actors outside the network) which also belongs to the administrative category but in the respect that it sometimes aims at commercial activities as it implies making new contacts and marketing ideas of how to cooperate
 - *IT communication and development* which belongs to the technical category of information but also to the commercial category as some of the emails had embedded sales-messages
 - *sales* (often related to different kind of services) which is split into *outgoing sales* and *incoming sales* (offers from other firms) fitting into the commercial category
 - *establishing social contacts* (divided into *associations* seeking cooperation with actors in the network and *others*), belonging to the social category of information.
 - *private emails* (also belonging to the social category).

- Communication frequency:
 - *the number of incoming emails* to the hub in each time period
 - *the number of outgoing emails* from the hub in each time period

5 Findings

5.1 Communicating actors and communication frequency

The incoming and outgoing emails from the hub are reported in Table 1. The data refer to the month of October in the years 2000 and 2001. The figures refer to the number of emails, i.e., a measurement of the communication frequency regarding this medium. The senders and recipients of the emails are grouped into the emerging categories obtained through the analysis.

<i>Period</i>	<i>Actors</i>								
	<i>The hub</i>	<i>Member companies</i>	<i>The portal</i>	<i>Authorities</i>	<i>Trade and industry</i>	<i>Consultants</i>	<i>Private</i>	<i>Total</i>	
Oct. 2000	Total	19	4	18	12	11	30	15	114
	Inbox	17	3	17	11	10	21	11	90
	Outbox	2	1	1	1	1	9	4	24
Oct. 2001	Total	55	6	0	8	18	40	9	136
	Inbox	28	4	0	4	8	23	5	72
	Outbox	27	2	0	4	10	17	4	64

Table 1. *Communicating actors and communication frequency*

A comparison between October 2000 and October 2001 shows the total number of network-related emails to and from the hub increased from 99 to 127. The figures in Table 1 also show that the internal communication within the network (the hub's internal communication and its communication with the member and emails involving the portal) represented 41 % of all network-related emails (i.e., excluding private emails) in October 2000 and 48 % in October 2001. The remainder concerned emails to and from external parties such authorities, people from trade and industry, and consultants. However, the increase in internal communication does not indicate that the email communication to and from the members increased. This category remained very small (4 % of the incoming and outgoing network-related emails to and from the hub in October 2000 and 5 % in October 2001). Most of the increased communication frequency was due to more emails exchanged between the members of the hub.

Table 1 also shows that consultants represented the most numerous communication category of the hub in October 2000. This was probably related to the network communication strategy focusing on the use of email and the Internet. The frequency in the portal category may confirm this communication strategy issue. The frequent contact with the authorities may be linked to the internal contacts within the hub. Both these categories reflect that the internal management processes of the network are time consuming at the start of the strategic network. As already mentioned, email was used very little in communication with member companies or trade and industry people during this period of time. As a matter of fact, such professional communication was not more extensive than private email communication with friends.

In October 2001 the communication within the network hub had increased markedly which reflects the larger volume of activities in the strategic network. There is also an increase in email contacts with consultants, which maybe reflects that the network was considered an interesting customer. Also the email contacts with trade and industry people had increased. The portal seems to have diminished as an actor which might be explained by the employment of a network administrator handling the mass-communication emails and web

portal issues. But although the email contacts with the member companies had increased somewhat, this communication frequency must be considered very small against the background of the communication strategy of the strategic network.

5.2 Information contents

Table 2 shows the classification of email contents. The dominating category in October 2000 concerned the development of IT communication. This reflects the establishment of the communication strategy. Another frequently communicated subject concerned internal network information, half of which dealt with strategic issues. Salespeople frequently approached the network by email as well as people wanting to establish new contacts. The network project organization category is surprisingly low considering the early stage in the establishing process. A lot of collaboration initiatives took place by email.

<i>Information contents</i> ^a		<i>Period</i>			
		October 2000		October 2001	
		Inbox	Outbox	Inbox	Outbox
Network project organization		9	1	27	19
Project collaboration		6	1	5	8
Internal network information	Strategic management	11	5	31	19
	Common information	11	0	13	6
	Records	1	3	5	5
External network information	Formal	6	1	5	13
	Informal	3	1	5	10
IT-communication development		42	5	16	19
Sales	Incoming	13	7	9	5
	Outgoing	0	0	0	1
Establishing social contacts		13	2	0	2
Private issues		9	9	5	0

Notes

^a As several emails include contents from more than one category the number of items in the table is larger than the number of emails during the selected periods.

Table 2. *Information contents*

In October 2001 the number of emails dealing with network project organization and internal network information had increased distinctly. At this time the strategic network was fully operational, and there were a lot of strategic issues to address. This is also reflected by the expansion of internal information by email. A slight increase of the external activities had taken place. For instance, emails from the outbox of the hub show that the hub more often was asked to tell the history of the strategic network and report on experiences from various meetings. Fewer new contacts were taken by email which might reflect that the hub to a larger extent worked with already established contacts in its external activities. Emails about IT development and sales had decreased substantially although such information content remained as dominant categories.

6 Concluding remarks

6.1 The role of the hub

The role of the hub is assumed to resemble the one of a business manager – involving the coordination and support of the co-workers. The findings of the study are compatible with this view with respect to the communication between the actors in the hub, but the assumption is

not supported when it comes to the network members as far as the communication behaviour of the hub is represented by its email communication.

The creation, promotion and development of relations between the network actors are other assignments of the hub that obtained very little attention in the email communication. It is hard to find any systematic or even occasionally arranged activities with the purpose of creating trust and relationships. The explicit IT strategy might have been an obstacle for the development of relationships as it initially turned all interest towards resolving the practical problems connected to its implementation and also deflected the focus from face-to-face meetings. The implication of the IT strategy was to promote impersonal and formal communication about technical and strategic management issues. However, strong relationships probably got established amongst the actors in the hub due to their frequent and close interaction.

Another question is whether the IT strategy contributed to relevant and reliable communication through email. It is difficult to assess whether relevant communication was obtained, but it is easier to judge the reliability of the communication process. As only a fraction of the network actors actually used the medium it can hardly be said to have been a reliable tool for the network. The lack of skills amongst the actors in handling the Internet became an additional problem for the hub when it tried to fulfil the stipulated aims.

Managing a regional strategic network is a complex and difficult assignment due to the lack of formal authority. This was pointed out in one of the interviews with the actors in the network hub. The problems generated by this dilemma were not made easier by email communication.

6.2 Email communication

Frequent employment of email communication is often associated with increased efficiency and productivity. Minimum requirements for this are that the communicating actors have access to a computer with Internet access, that they are familiar with such media and have sufficient typing skills. None of these conditions was fulfilled in the present case. The network actors in the hub actually had to phone and say “you’ve got mail” in order to reach some email recipients. The communication within the hub worked more efficiently and so did the email contacts with people on the outside interested in selling or gaining benefits from cooperation with the strategic network.

It is difficult to assess whether the relationship atmosphere changed, but the emails between the actors in the hub reveal that these people became close to each other and that important, strategic discussions took place with financiers and other possible future collaborators.

Another interesting question is whether email might be regarded as a suitable communication medium in this particular strategic network considering the technical skills and equipment of the people in the member companies. A positive outcome was that a lot of the network members gained IT competence and bought equipment as a result of the activities in the strategic networks. However, email as a communication tool did not work as it was meant to, which might be explained by the overconfidence of the hub in technology and its lack of knowledge of network management and understanding of the situation of the membership companies.

6.3 Managing communication

The management approach in this case followed the principle of the transmission perspective. Only little attention was devoted in the emails to other communication effects such as how the communication process might influence and shape the strategic network, the member companies, and the individuals involved.

As the hub was unaware of how to handle the situation such issues were not given sufficient time and space. However, within the hub the situation was different. The parallel presence of face-to-face communication made the internal email communication a useful tool as illustrated both by the development of the communication frequency and the information contents in the emails of the hub.

References

- Andersen, I. 1998. *Den uppenbara verkligheten*. (Evident reality). Studentlitteratur, Lund.
- Anderson, J. C. and Narus, J. A., 1990, A model of distributor firm and manufacturer firm working partnerships, *Journal of Marketing*, 54, pp. 42-58
- Andresen, E., Bergman A. & Hallén, L., 2003, Electronic communication in strategic networks. Paper presented at the 19th annual IMP Conference, Lugano, Switzerland.
- Barnard, C. 1938. *The Functions of the Executive*.
- Bergman, A. & Ohlsson, B., 2004, Kommunikation i strategiska nätverk (Communication in strategic networks). Forthcoming book chapter.
- Blankenburg Holm, D., Eriksson, K., Johanson, J., 1997, Business networks and cooperation in international business relationships. *Journal of International Business Studies*, 27, 5, 1996, pp, 1033-1053
- Child, J. & Faulkner D., 1998, *Strategies of cooperation. Managing alliances, networks and joint ventures*. Oxford: Oxford University Press.
- Christensen, L. & Kempinsky, P., 2003, Vad kräver arbetet med regionala utvecklingsprocesser? (What do regional development processes require?) Dahménforums arbetsrapport 2003:2.
- Denscombe, M., 2000. *Forskningshandboken – för småskaliga forskningsprojekt inom samhällsvetenskapen* (The research handbook), Studentlitteratur, Lund.
- DeSanctis, G. D, & Monge, P. R., 1999, Communication processes for virtual organizations. *Organization Science*, 10, 693-703.
- Gadde, L.-E. & Håkansson, H., 1993, *Professionellt inköp* (Professional purchasing). Studentlitteratur, Lund.
- Gadde, L.-E., Huemer, L., Håkansson, H., 2003. Strategizing in industrial networks. *Industrial Marketing Management*, vol. 32, pp. 357-364,
- Håkansson, H. (ed.), 1982, International marketing and purchasing of industrial goods – an interaction approach. Chichester: Wiley.
- Håkansson, H., & Johanson, J., 1992, A Model of Industrial Networks, In: Axelsson, B. & Easton, G. (ed.), 1992, *Industrial Networks. A New View of Reality*. London, Routledge, pp. 28-34.
- Håkansson, H. & Johanson, J., 2001, Business network learning – basic considerations. In: Håkansson, H. & Johanson, J. (eds.), *Business Network Learning*. Amsterdam, Oxford: Pergamon, pp.. 1-16.
- Holmlund, M., 2004, Analyzing business relationships and distinguishing different interaction levels. *Industrial Marketing Management*, 33, 4, pp, 279-287.

- Ireland, R. D., Hitt, M. A. & Vaidyanath, D., 2002, Alliance management as a source of competitive advantage, *Journal of Management*, 28, 3, pp. 413-446
- Jarillo, J. C., 1988, On strategic networks. *Strategic Management Journal*, 9, pp. 31-41
- Johansson, C. 2003, *Visioner och verklighet – kommunikationen om företagens strategi* (Visions and reality – corporate communication strategy). Uppsala studies in media and communication, Uppsala University (diss.).
- Järvenpää, S. & Leidner, D. E., 1998, Communication and trust in global virtual teams. *Journal of Mediated Communication*, 3, 4.
- Leek, S., Turnbull, P., T., & Naudé, P., 2003, How is information technology affecting business relationships? Results from a UK survey. *Industrial Marketing Management*, 32, 2, pp. 119-126
- Markus, L. M., 1994, Electronic mail as the medium of managerial choice. *Organization Science*, 5, pp. 502-527.
- Mohr, J. and Spekman, R., 1994, Characteristics of partnership success: partnership attributes, communication behaviour, and conflict resolution techniques. *Strategic Management Journal*, 15, pp. 135-152.
- Morgan, R., M., Hunt, S., B., 1994. The commitment-trust theory of relationship marketing. *Journal of Marketing*, 58, pp. 20-38.
- Ring, P. S. & Van de Ven, A. H., 1994, Developmental processes of cooperative interorganizational relationships. *Academy of Management Review*, 19, 1, p. 90-118.
- Roxenhall, T., 1999, *Affärskontraktets användning* (The use of business contracts), Uppsala: Uppsala University, Dept. of Business Studies (diss.).
- Sahlin, M., 2005, *Informationsbärare i organisationer – informationshantering med pappersdokument och e-dokument*, (Information carries in organisations). Uppsala: Uppsala University, Dept. of Business Studies.
- Silverman, D. 1993, *Interpreting qualitative data. Methods for analysing talk, text and interaction*, SAGE Publication Ltd., London.
- Simonsson, C., 2002, *Den kommunikativa utmaningen* (The communicative challenge). Lund studies in media and communication, Lund: Lund University.
- Sproull, L. & Kiesler, S., 1986, Reducing social context cues: electronic mail in organizational communications. *Management Science*, 32, 11, pp 1492-1512.
- Thyberg, E., M., Roxenhall, T., Andresen, E., 2006. Rapport processutvecklingsprogram och processtöd Y-län (Process development programmes and process support). Länsstyrelsen i Västernorrland & Nutek, Härnösand.
- Waluszewski, A., 2004, Försöker någon styra nätverk dör de (Networks die if controlled). *Axess*, 3, 2004. http://www.axess.se/svenska/2004/03/tema_waluszewski.php
- Yates, J.-A., Orlikowski, W., J. & Okamura, K., 1999, Explicit and implicit structuring of genres in electronic communication: reinforcement and change of social interaction. *Organization Science*, 10, 1, pp. 83-103.