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Network Reactions to Actor's Role Change

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Abstract

The paper discusses and maps out network reactions as a consequence of role change. We suggest a model that places the origin of change in business networks at the actor level, from which change spreads to influence surrounding actors and the relationships between actors. Four types of network reactions are identified and discussed in detail in relation to role change, namely (1) the trembling network reaction with uncertainty and anxiety, turbulence and stress, speculations and rumours, information seeking, and rejection, (2) the swaying network reaction with changes in the form of alteration within individual organizations and adaptations in ongoing business relationships, (3) the shaking network reaction with alteration within individual organizations, adaptations in ongoing relationships and changes in the network structure, and (4) the breaking network reaction with total reconfiguration of the earlier network structure.

Key words: business network dynamics, network reactions, role change

1. Introduction

Firms acting in business networks often carry out tasks and actions which are specific to that particular network and position held therein at a certain point in time. The firm may act as a supplier of e.g. raw material and thus the relationships between the focal firm and network members are based on expectations of the focal firm's specific supplier tasks. However, what happens if the focal firm changes focus and e.g. starts to produce the final product in-house, thus becoming a direct competitor to former buyers? What kind of role change is taking place? Which consequences in the wider network are possible in a situation where a firm changes role, and how should role change be managed?

Role and position have been used as tools to analyse change or dynamics in business networks. Business network dynamics has been studied by several researchers focusing on industrial network theory (e.g. Anderson, Havila, Andersen and Halinen, 1998; Henders, 1992), arguing that dynamics in business networks can be understood based on the interplay between the positions and roles of the actors. Within the IMP-tradition, role is seen as the dynamic or processual aspect of position and describes what actors intend to do and how they construct meaning from their position. A role is seen as being "owned" by a separate company (cf. Heikkinen, Mainela, Still and Tähtinen, 2007), rather than an individual human being, which is normally the case when it comes to research on role theory (cf. Turner, 1988). Firms may change their roles as a result of e.g. internal re-organizations, new production methods or general technological advancements. Firms may also change their roles as a result of mergers, acquisitions, diversification of market offers or streamlining. A position, on the other hand, (1) characterizes the relation an actor has to other firms, (2) is a cumulative result of earlier activities in the network, and (3) constitutes the base which gives each network member development possibilities and constraints (Hägg and Johanson, 1983).

Although network dynamics has received increasing attention (see e.g. Easton and Lundgren, 1992; Håkansson, 1992; Zerillo and Raina, 1996; Hertz, 1996, 1998; Halinen, Salmi and Havila, 1999), most contributions focus on network reactions to dyadic change, and how one dyadic change affects another relationship. Change has been seen as originating on a relationship level and introduced in the relationship by one of the engaged actors, which in turn affects additional dyads in the network. Questions such as how *individual* companies manage change and react to change arising at a focal firm level, remains however unanswered. Every network member has a "role-set", which determines its responsibilities. When this role-set changes, surrounding companies may have to adjust to the new situation, creating additional changes in the network. The companies involved in such changes rarely acknowledge reactions from surrounding network members, but focus on internal issues. However, according to business-to-business (B2B) marketing research, actors are not isolated, but inter-linked through technologies, knowledge, social relationships, administrative routines and other interdependencies. Firms are directly and indirectly connected in relationships, which makes them respond to changes originated within, and by, other organizations (Håkansson and Snehota, 1995). A successful role change process, no matter its purpose, is not solely dependent on positive internal outcomes but also on achieving desired reactions from surrounding network members (Fors, 2007).

Yet, there is still little research taking into account network reactions as a consequence of role change. We know very little about how surrounding actors respond to role change and most importantly, we lack knowledge about how to manage role change as to achieve desired responses. This paper takes the perspective of one focal firm by acknowledging network members' responses to role change. We discuss the consequences role change may have on the surrounding business network (network reactions) either for individual actors or for the relationships between actors. A network reaction, then, is defined as the consequences a role change has on the surrounding business network. The paper focuses on mapping out network reactions to role change, rather than e.g. the reasons for, or the process of, role change. We acknowledge the fact that there are other drivers of network dynamics than those stemming from role-change. However, the paper discusses this particular factor as a reason for business network dynamics.

2. Disposition

The paper is conceptual by nature and consists of a theoretical review and discussion of earlier research on role and change in business networks. Section 3 puts change in general and role change in specific in a wider context of inter-linked business actors and explains why we should acknowledge network members' reactions to role change. The section describes how individual firms are connected in relationships, how relationships are connected in networks, how change in one part of the network can spread and affect other parts as well, and thus why it is important for the focal firm to manage role change in a proper way. Section 4 discusses role and role change more thoroughly, and points to the relevance the concepts have for understanding business network dynamics.

Section 5 discusses and categorizes network reactions. Empirical examples are used to highlight the relevance of the topic. The examples presented are based on critical events in business networks, which have caused involuntary reactions among network members. This perspective, i.e. consequences stemming from critical events, is often used in research on business network dynamics (cf. Halinen et al., 1999). Concluding words are offered in section 6.

3. Business Networks and Change

According to B2B marketing research, actors are not isolated but inter-connected in relationships (Håkansson, 1982). Håkansson and Snehota (1995) summarize business relationships as being made up of interdependencies, or a substance composed of three layers: (1) activity links, which includes transactions and processes like communication, adaptation and coordination, (2) resource ties, which attaches knowledge, technology, material, financial assets and other resource elements between the counterparties, and (3) actor bonds, which consists of personal relationships between individuals from respective firms. People develop a relational infrastructure of norms, trust, commitment and inter-firm knowledge.

Because both parties engaged in the dyad are also in relationships with other firms, every relationship is in fact a small part of a structure of relationships. Even the smallest company has a minimum web of direct relationships – for instance with customers, suppliers, authorities, banks and so on – and indirect relationships with the customer's customer, the supplier's supplier and other related parties without whom it would go out of business. In other words, every relationship is a component of a wider business network. An activity link is only a small part of a bigger aggregated activity pattern, a resource tie is only a part of a wider cumulative resource constellation and an actor bond is only a piece of a whole web of actors. (Håkansson and Snehota, 1995) Therefore, when role change occurs, the actor is likely to affects its existing and future relationships, and subsequently the network structure.

3.1 Incremental versus radical change

Through the years, researchers have argued that business networks constantly undergo change (see e.g. Thorelli, 1986; Håkansson 1989; Powell, 1990; Håkansson and Johanson, 1992; Easton and Lundgren, 1992; Hägg and Johanson, 1983; Hertz, 1996, 1998; Anderson et al., 1998; Anderson, Andersson, Havila and Salmi, 2000). While some have argued that networks are active structures, others have pointed out the stable nature of networks. For example Benassi (1995) points out that a network is stable due to its architecture being constant. The network is stable because firms' propensity to interact with others does not change. According to Zerillo and Raina (1996), stability is secured by firms' desire to avoid conflicts. Actors adapt to each other through incremental and controllable steps which make the pattern of B2B markets on the whole somewhat stable (Anderson, Håkansson and Johanson, 1994; Håkansson and Snehota, 1995). Change has been studied in terms of e.g. alteration in activity links (Fredriksson and Gadde, 2005; Gadde, 2004; Gadde and Håkansson, 2001), resource ties (Baraldi, Bocconcelli and Søderlund, 2001; Håkansson and Waluszewski, 2002) and actor bonds

(Gadde and Håkansson, 2001; Håkansson and Snehota, 1995). Alteration in one separate activity link (on the dyadic level) may have consequences on the bigger aggregated activity pattern (on the network level).

On the other hand, researchers such as Halinen et al. (1999) have pointed out the role of radical change in reforming the deep structure of a given business network. "Incremental dyadic change refers to change in the character of a relationship, whereas radical change means that a relationship is terminated or established. Similarly, network change may be incremental, involving changes in the character of relationships, or radical and frame-breaking." (Halinen et al., 1999, p. 789) Activity links, resource ties and actor bonds do not only vary in content and nature, but they can also come to an end or be established from scratch.

In 1991, Gersick conceptualized change as a punctuated equilibrium; a rotation between long periods when stable infrastructures permit only incremental adaptations, and brief periods of revolutionary disruption. During equilibrium periods, business networks maintain and carry out the choices of their deep structure. Network actors make adjustments that protect the present construction against internal and external disorders, and move incrementally along paths built into the deep structure. Revolutions, on the other hand, are relatively short periods in which a network's deep structure comes apart, leaving it in confusion until the period ends with the choices around which a new deep structure forms. "The difference between the incremental changes of equilibrium periods and revolutionary changes is like the difference between changing the game of basketball by moving the hoops higher and changing it by taking the hoops away. The first kind of change leaves the game's deep structure intact. The second dismantles it. The definitive assertion in this paradigm is that systems do not shift from one kind of game to another through incremental steps: such transformations occur through wholesale upheaval." (Gersick, 1991, p. 19)

3.2 Levels of change

Since organizations are connected in relationships which in turn are connected in networks, researchers mean that any dyadic change may spread and affect other relationships as well (Håkansson and Snehota, 1995; Halinen et al., 1999). A change that goes beyond the dyadic level, that spreads from one relationship to another, has been labelled with several yet closely related terms: the network function (Håkansson and Snehota, 1995), domino effects (Hertz, 1992), connected change as opposed to confined change (Halinen et al., 1999), network effects (Anderson et al., 1994; Dahlin et al., 2005), network reactions (Fors, 2007; Fors, 2008) and spread of change (Havila and Salmi, 2000; Halinen et al., 1999).

As mentioned previously, change has mostly been seen as originating on the dyadic level and introduced in the relationship by one of the engaged actors, affecting additional relationships in the network. Change has mostly been seen as travelling from one *relationship* to another. Questions such as how *individual* actors manage and react to change are however left with minor attention. Change may evoke responses among directly connected companies at the dyadic level, or among indirectly connected companies at the network level. Since change *within* a company often is the basis for actions taken on the relationship level (Abrahamsen, Naudé and Håkansson, 2007; Håkansson and Snehota, 1995), we also need to take into account how role change is managed by the focal firm and how separate network members cope with the new situation.

Abrahamsen et al. (2007) recently presented a conceptual model for analysing change in business networks. According to them, change occurs on three different levels: the actor level, the dyadic level and the network level. This division was made already in 1995 by Håkansson and Snehota, who presented an analytical scheme for the identification of where and with what effect change occurs. A change that arises at the actor level may affect the dyadic level and the network level, and vice versa. Separate actors, not only relationships, react. (Håkansson and Snehota, 1995, p. 45)

3.3 Triggers of change – the importance of critical events

In order to enhance our understanding of network dynamics, Havila and Salmi (2000) point out the importance of looking into the sources of change. According to the authors, every change – incremental or radical, confined or connected – derives from a specific event. They argue that some events are critical, "[…] meaning that they lead to either disruption or establishment of relationships […]" (Havila and Salmi, 2000, p. 110). In addition to expected and desired outcomes, critical events are seen to evoke also unexpected and undesired network reactions, (Håkansson and Snehota, 1995; Anderson et al., 2000), reactions that in normal circumstances would never have come to the surface (Hertz, 1992). As critical events appear more suddenly, they release tension (Halinen et al., 1999) and uncertainty (Dahlin et al., 2005) among connected actors and set radical change in motion (Halinen et al., 1999, p. 786). Gersick (1991, p. 26) describes this by saying: "Since they are no longer directed by their old deep structure, and do not yet have future directions, system members experience uncertainty, often accompanied by powerful feelings." Tushman et al. (1986, referred to by Gersick, 1991) describe organizational re-orientations as inescapably risky and painful to those participating, yet potentially exhilarating too.

This should mean that critical events can vary in how they benefit or harm individual actors, and relationships between actors, which operate within the boundary of a given network (Gersick, 1991). Critical events can function either as possibility creators or problem creators. A strategically important supplier that unexpectedly breaks its relationship with the actor that is undergoing change can be seen as a negative reaction that ultimately leads to an unsuccessful role change process. On the contrary, an actor that expectedly gains new customers can be seen as a positive reaction which ultimately leads to constructive change outcomes. Unexpected reactions may turn out to be beneficial, as expected reactions may turn out to be harmful for a distinctive collection of actors. To permit analysis, every reaction from the surrounding network must be put in relation to initial role change objectives.

In this paper, we focus on those network reactions which to a high degree can be seen as unexpected and undesired, and thus harmful for most actors involved. In section 5, we give short examples of such network responses.

3.4 Managing critical events

The question that must be asked is: do companies involved in role change have any responsibility to those in the network other than to protect their own interests? It is obvious that a role change activity affects the directly engaged firm itself. Role change may bring about visible economic effects, cost cutting measures, employee impact, shareholder or stock price response, loan/bond rating influence and government/regulatory board involvement. Such factors urge the focal firm to handle the current event correctly.

The importance of having *also* the connected business network in mind can be better understood if we view each member of the network as organically bound to its image. The image itself is undoubtedly altered during serious events, something that can bring about major consequences. According to Tähtinen and Vaaland (2005), unsatisfied network members can punish the initiator(s) of change by social pressure, disappointments and lost referrals. Adjoining actors can even impose sanctions for future business. The company that is undergoing role change can start to sense weakened reputation, loss of prestige and spread of bad word-of-mouth in the network. Keeping network members satisfied in times of change should therefore be in the focal firm's best interest.

Only proper role change management will maximize the chance for positive outcomes and minimize damage on the surrounding network. Proper role change management means maintaining control over the change situation to ensure that only desired and beneficial reactions are evoked. The best way to maintain such control is by avoiding or mitigating uncertainty among network members. The focal firm should do its best in trying to normalize or routinize critical events and making them appear as ordinary and harmless as possible. Whether a

network reaction starts or not is very much dependent on network members' interpretations of change. An event which is perceived as rather risky will be acted upon accordingly. In their 1999 article, Halinen et al. pointed out that it is the perceptions of the event rather than the event itself that lead to network reactions. They conclude that "the mental process of enactment is proposed to be a key explanation for both stability and change in networks. Depending on the perceptions of individuals - how they view the business context and its interdependencies, and possibilities to achieve their business goals in this context - some events are considered critical and requiring prompt action from the company, while others are perceived as minor, allowing inertia to come to the fore" (p. 791).

The role of perceptions has been stressed by other researchers as well: Ford and Håkansson (2006) stress that an actor's subjective interpretation of the actions of others is the basis for its own actions. Lundgren (1992) points out that an actor's perceived uncertainty triggers change. Hertz (1992, p. 121) states that "[…] the perceptions of integration might cause greater effects that otherwise might be expected from the actual change". Håkansson (1992, p. 130) argues that "the network is shaped though interactions but these in turn take place in accordance with the perceptions of the network held by individual companies". Holmlund and Strandvik (1999) conclude that critical incidents, or events, represent potential instances of change in business relationships and instances of turbulence in an otherwise steady flowing stream of interactions. The authors do not consider a critical event to be an objective issue; it is rather regarded in terms of how it is perceived by individuals involved.

In this paper, role change is seen as a critical event that releases tension among connected actors and has the potential to cause radical changes in the deep structure of a business network. In section 5, we discuss the different consequences a role change may have on the surrounding network. We map out a variety of network reactions, both on the actor level, the relationship level and the network level. First, role change is more thoroughly discussed.

4. Role Change

The following sections discuss role and role change. We propose that when an actor changes its role in a business network (for whatever reason), this becomes a critical event that leads to network reactions. In order to manage the role change process, the concept of role and role change must be understood.

4.1 Role and position

The concept of role was introduced in IMP-related research together with the concept of position during the 1990s (Henders, 1992; Anderson and Havila, 1993; Anderson et al., 1998). Role and position became a tool, with which dynamics of networks could be understood. Originally, role theory draws on behavioural and social sciences (e.g. Linton, 1936; Biddle and Thomas, 1966; Broderick, 1999). Usually the individual is taken as the unit of analysis, indicating that individuals behave in different and predictable ways depending on their social identities and respective situation (Biddle, 1986). Nevertheless, Mintzberg (1980) applied role theory on management and presented managerial roles. Katz and Kahn (1966) view role as a focal concept in their theory of organizations and propose that organizations are systems of roles. The concept of role, according to the authors, contains elements that signify the static position of an individual among certain structures. Thus, the basic criterion for studying role is to identify the relevant surrounding structure (Katz & Kahn, 1966, quoted in Heikkinen et al., 2006). In this paper, an actor (the firm) is viewed as possessing certain role in the business network. Role in a business network context is here defined as what the actor intend to do and how it construct meaning out of its network position. The role of an actor is socially constructed and actors should be seen as collections of several roles (Ashfort, 2000). Actors coordinate their behaviour based on preferences, perceptions and interpretations, ending up in jointly defining what constitutes a certain role. In simple terms, role helps to describe how cooperating actors are expected to behave depending on their functions and tasks (cf. Jahnke, Ritterskamp and Herrmann, 2005).

4.2 Change related to role

Merton (1957) introduced the notion of the "role-set", indicating that an actor occupying a position has a set of roles which relate that particular actor to other parties with other roles. A role-set is a complex of positions in which an individual holds simultaneous membership. When one actor takes the role of another, it may or may not include adopting the standpoint of the other as one's own (Turner, 1988). Role-taking is thus a process. Turner (1988) implies that actors' conceptions of themselves determine which roles they seek to play and how they will play them. The process of role-taking "involves interpreting the behaviour of others as a syndrome of gestures that reveals a role" (ibid., p. 86). Role-taking begins with the use of shared role-conceptions as the basis for inputting a role and it is only when the gestures of others do not seem to correspond to these more shared and standardized conceptions that actors begin to construct a situationally unique role for others (ibid., p. 86). Role-making and role-taking are concepts that describe role and define role as "the set of prescriptions defining what the behavior of a position member should be", according to Biddle and Thomas (1966, p. 29). Role-making, on the other hand assumes that individuals consciously and unconsciously orchestrate their emission of gestures in order to "make" or assert a role for themselves in situations.

When it comes to change in role, the process of changing from one role to another is referred to as *role transition*. For instance, Allen and van de Vliert (1984, p. 3) define role transition as "the process of changing from one set of expected positional behaviors in a social system to another". Role transition is believed to be an important type of change due to the fact that it strongly affects behaviour and social identity of those who participate in the change process. Potential causes of role transition can be found in (1) chance events, (2) societal forces, (3) change in role senders and (4) capability or motives of the focal person or actor. *Role distance* is seen as the efforts taken in order to differentiate the self from the role. *Role alteration*, on the other hand, indicates temporary changes in role relationships whereas a more permanent shift from one position to another is called role transition. Also, the development of roles and their patterns can, according to Herrmann, Jahnke and Loser (2004), metaphorically be described as role mechanisms: *role-taking* is related to expectations "which can be potentially enforced sanctions being imposed on the role actor". *Role-assignment* occurs when one or more actors assign a concrete role to a certain actor. The actor can decide to take the role or not. *Role-change* is taking a new role while giving up another. *Role-making* characterizes how an actor transforms the expectations into concrete behaviour. *Inter-role conflict* indicates that a conflict between roles can occur, if an actor takes more than one role. *Role-definition* means that tasks may be modified since existing roles are dynamic. A role always has a function of executing a certain task. The different role change processes are summarized in Table 1.

Process	Description
Role-change, role transition	The process of changing from one set of expected positional behaviours in a social system to another.
Role alteration	Indicates temporary changes in role relationships
Role extension	Indicates taking on additional roles (part from existing ones)
Role distance	Actions that differentiate the self from the role
Role-making	Transforms expectations into concrete behaviour
Role-taking	Indicates sanctions being imposed on the role actor
Role-assignment	One or more actors assign a concrete role to a certain actor
Inter-role conflict	Conflict between roles can occur, if an actor takes more than one role
Role definition	Tasks may be modified since existing roles are dynamic

Table 1. Processes of change in role and their definitions.

5. Categorizing network reactions

As mentioned previously, knowledge about how to describe network reactions is scarce. What are they? Exactly how do they manifest themselves? So far network reactions have mainly been seen as either incremental or

radical (see e.g. Anderson et al., 1994; Håkansson and Snehota, 1995; Halinen et al., 1999). Incremental change has been described as adaptations within ongoing relationships, in terms of activity links, resource ties and actor bonds, while radical change has been defined as dissolutions of existing relationships or establishments of new ones. In 1992, Easton and Lundgren offered a new categorization, suggesting that an actor may (1) reflect the change, which refers to situations where an actor rejects or nullifies change initiated by another actor, that it reflects the change back to the initiator, (2) adapt to the change, which refers to those changes that are managed through negotiations between the involved parties, (3) absorb the change, which means that the actor accepts the change by taking it (absorbing it) into its own organization, (4) transmit the change, which occurs when an actor transfers the effects of the change on to other network members in order to minimize the force of the change upon itself, and finally (5) transform the change, which happens when an actor accepts the change but is both willing and able to alter the transformation and exchange activities it undertakes. In some cases this could lead to major changes in the business network.

In their attempt to map out a network's cumulative reaction to change, Dahlin et al. (2005) mean that reactions to critical events spread throughout directly and indirectly connected relationships in the same way as the released energy stretches from the epicentre to adjoining areas in an earthquake. The term netquake was coined to describe this concept. When there is too much stress involved in the appearance of a critical event it must be released. This happens in the form of waves of uncertainty as actors begin to analyse how they will be influenced. If not managed properly, this uncertainty will lead to further reactions, both on the actor level, the dyadic level and the network level. Reactions which result from uncertainty are often seen to be unexpected and undesired and thus harmful for must actors involved.

Dahlin et al. (2005) have identified four levels of network reactions: (1) the trembling network reaction with uncertainty, speculations and rumours flowing through attentive connected actors, (2) the swaying network reaction with adaptations between business actors, (3) the shaking network reaction with some changes in the network structure, and (4) the breaking network reaction with a total reconfiguration of the network construction. Levels (1) and (2) depict the way actors experience the critical event and adjust to it, whereas level (3) and (4) express the damage on the deep structure of the network. The higher levels the stronger the netquake. The higher levels the more relationships are involved and the greater the consequences are for the network formation.

5.1 Mapping out network reactions as a consequence of role change

In the following sections we discuss and categorize network reactions in line with Dahlin et al.'s (2005) way of thinking. The netquake model helps us to conceptually grasp different magnitudes of network reactions and allows us to analyze the severity of a critical event by distinguishing between different levels of outcomes. However, it fails in accurately taking into account individual actors' adaptations to change. The model only shows how individual actors experience change emotionally, but not how they internally take actions to gradually adjust to the new situation. Below we explain each network reaction level more thoroughly and we support our point of view by previous research and empirical examples.

5.1.1 Trembling network reaction

As pointed out by Dahlin et al. (2005), the trembling network reaction describes the way actors experience and perceive the critical event in question. It is about how network members *feel* about the current event, and therefore we cannot see any observable actions or effects. In a case study about how the Swedish IT distributor Nocom stretched its position to both directions of its conventional business chain to take the role of a supplier as well as a sales channel, Fors (2008) shows how connected actors became worried and uncertain about their future. Questions kept coming from the outside, but the company had lost its focus and became so unorganized that neither management nor personnel could give any clear answers. Suppliers and sales channels felt a need to

meet in person with the company's CEO in order to find out "how it *really* goes". Network members felt they were kept in the dark as to what was going on and even betrayed by the focal actor in the example. As this situation continued, rumours and speculations started to spread among sales channels concerning the role of Nocom, i.e. whether Nocom acts as a true distributor or as a direct seller to end-customers. Network members therefore started to ask Nocom's suppliers about Nocom's future prospects and position in the network.

Another example of a trembling network reaction can be found in the ICT-sector, where technological development has enabled e.g. media companies to take on roles as mobile operators. A Finnish example (Nyström, 2008) shows how, in 2003, media company MTV Media decided to become a mobile service operator through launching a mobile and broadband subscription in Finland. This decision affected existing mobile operators in many ways. For instance, they report to have experienced a period of uncertainty and anxiety, not knowing whether the entrance of MTV Media into telecommunications meant that also other media companies will follow the same example. Mobile operators were at the time painfully aware of the fact that "content is king" and lacked competences to offer attractive content services. Media companies were at the time considered to be the main content creators for mobile services.

In the trembling network reaction, actors become attentive, thoughtful and doubtful. Actors feel uncertainty, anxiety, turbulence and stress. As this happens, speculations and rumours may start to spread, either *between* network members or *within* individual companies. Actors start to seek information, either from the focal firm itself, from network members, from companies unconnected to the network or from media. According to Easton and Lundgren (1992), firms may also decide to reflect the change, which means rejecting or nullifying the change initiated by another actor. The trembling network reaction resembles the process of becoming aware of change and interpreting signals in the external environment. This also implies that the actors are trying to make sense out of their reality and the context in which they operate. Weick (1995) argues that sensemaking is about, among other things, interpretation, creation and discovering. Taylor and van Every (2000) as well as Weick and Sutcliffe (2005) argue that sensemaking involves turning circumstances into a situation that is comprehended explicitly in words and that serves as a springboard into action. Sensemaking is thus the primary site where meanings materialize and eventually forms and constraints identity and action (Mills, 2003). Weick and Sutcliffe (2005, p. 409) continue that sensemaking is, among other things, an issue of language, talk and communications where "situations, organizations, and environments are talked into existence".

Thus, the trembling network reaction imposed by an actor's role change indicates that actors seek to understand what is going on. Sensemaking is best done by communication between network members. Mattsson (1985) argues that the firm is expected by other firms to behave according to a set of norms, which are associated with the position they hold. In order for the network to remain stable, consensus must be achieved in terms of the role-set within the network.

5.1.2 Swaying network reaction

According to Dahlin et al. (2005), the second level of network reactions – the swaying network reaction – is characterized by adaptations in ongoing relationships. Actors begin to negotiate and discuss the current situation in order to find ways to gradually adjust. This means changes in existing activity links, resource ties and actor bonds. But the case study made by Fors (2007) shows that also separate actors adapt to role change. It shows that changes *within* individual companies often are the basis for actions taken on the dyadic level.

Coming back to the example of the Swedish IT distributor Nocom, the firm changed its role to an overall supplier of products and consultancy services. In doing that, connected actors had to make internal adjustments. To keep the conventional business chain intact, several suppliers felt that they had to take over some of Nocom's old distributor and marketing communication tasks. For the suppliers this meant restructuring employees' working-hours and activities. This also meant acquiring new skills and other resources. In addition

to that, some suppliers started to employ sales representatives with the purpose of finding new customers. Here, employing new personnel (swaying network reaction) led to the establishment of new customer relationships (shaking network reaction). On the dyadic level, Nocom's role change led to conflicts and discussions with suppliers and sales channels. According to one of Nocom's suppliers, there were more conflicts than creative business taking place during this time. Customers report that projects became bothersome, delayed and in some cases even cancelled.

Also, in the role change of MTV Media, Nyström (2008) notes several meetings arranged together with the mobile operators owning infrastructure networks in Finland. MTV Media presented how they would compete on the market and who their target group was. Even though the role and position of MTV Media was talked into existence, the mobile operators were on their guard as to what would happen if MTV Media was to succeed as a mobile operator, and worked on a number of scenarios with mobile operators possessing different kinds of roles. The most undesired role was the role of a "bit pipe", in which mobile operators become merely content distributors for media companies, potentially losing a strong position at the customer surface. Mobile operators were at this time in the position to invest in research and development of mobile services and content creation, a reaction caused by MTV Media's new role.

5.1.3 Shaking network reaction

Whereas the trembling network reaction and the swaying network reaction depict the way actors perceive and adjust to role change, the shaking network reaction represents consequences on the deep structure of the network. Here, not all actors manage to accept or adjust to the new situation, but some actors have to act more drastically. More and more actors get involved as the situation gets more and more serious. Too much conflicts or the inability to properly adjust in the swaying network reaction level can eventually lead to relationship terminations. In some cases, dissolutions and establishments of relationships are longed for and even encouraged by network members. The danger comes when such responses contradict the focal firm's change objectives.

In the case of Nocom's role change (Fors, 2007), the situation became worse as time passed by. Going from the swaying network reaction to the shaking network reaction, connected actors were more or less forced to act more radically. The lack of proper role change management left network members with no choice but to dissolve their relationship with Nocom and instead start new distributor relationships. For example, one of Nocom's suppliers (WRQ) established new distributor relationships with the Swedish IngramMicro which was a direct competitor to Nocom and the Norwegian Bedriftsystemer. Also, three suppliers drew back their credits when the Swedish daily paper Svenska Dagbladet in an article with the headline "IT companies' cash flow soon empty" gave Nocom 3.9 more months to bankruptcy. One of Nocom's customers who noticed a falling service level and degeneration in Nocom's delivery capacity and delivery quality (swaying network reaction), felt that this situation could not continue, why they eventually had to find another partner. This resembles the notion of radical change according to Halinen et al. (1999). The fact that relationships were terminated indicates that network members in fact rejected the suggested change by "cutting off" Nocom.

Another example is presented by Nyström (2008) who shows how the role change of one actor led to the termination of business relationships. Aina Group, a local telecommunications services provider in Finland, focused its role and position on the telecom market by consolidating a telecom operator, a media company and an IT company. The new organization took on a new role, which led to conflicts in joint ownerships. Aina Group owned an IT company jointly with mobile operator Sonera, but the arrangement was changed due to the fact that Sonera considered the IT firm to be competing with Sonera's corporate sales. Aina Group had prior to its role change never been in such a position that it had to directly compete with e.g. Sonera, but after the role change adaptations had to be made in the existing relationships. The change in role meant that the relationship between Aina Group and Sonera could no longer continue on the same basis. The nature of the relationship

between Aina Group and Sonera thus became competitive rather than cooperative. Aina Group continued to establish relationships to other actors, which they felt were supporting their role change. Aina Group and Sonera still had interaction concerning other tasks, but this particular form of cooperation was terminated as soon as it became clear to Sonera that Aina Group was overtaking their role in the business network.

The shaking network reaction can mean consequences for a whole business net, which is a local concentration within a given network (Easton, 1992). The development of mobile TV services in Finland has taken place through an intentionally developed business net (Nyström and Hanttu, 2007; Nyström 2008). The role of Nokia was initially to collect the relevant actors and initiate the business net, which had the purpose of verifying market demand. After proof of concept had been reached, Nokia decided to focus on international markets rather than the developmental work on mobile TV services which were taking place in the Finnish business net. The change of focus meant that Nokia changed its role as the "leader" of the business net. This caused a shaking network reaction as other net members had to make decisions about the future of the developmental work. Mobile operator Elisa then took the role as "leader", which in practice meant organizing activities and events, in which business net members share information and decide on future directions. The consequence of this was that the business net was "opened up" for content creators of various types in order to further develop mobile TV services.

5.1.4 Breaking network reaction

In a breaking network reaction the network is left in a total reconfiguration (Dahlin et al., 2005). Adaptation is no longer an alternative but most actors must dissolve or establish relationships. Obviously, level four is the most traumatic to deal with and even the most considered rescue plan will be challenged to re-establish stability. The previous network structure will be in total collapse and actors will be busy adjusting to a totally new network construction, which is something that requires enormous resources.

The focal firm can either try to encourage network reactions to its benefit or do its best in avoiding reactions from spreading. The netquake model (see Table 2) focuses mainly on network reactions which previously have been described as unexpected and undesired, both from the perspective of the initiator(s) of change and the receiver(s) of change. Obvious expected/desired consequences are not explicitly addressed (although some of the mentioned reactions in some cases can be perceived as positive by actors involved). If the focal firm wants to hinder unwanted reactions from escalating, the ambition should be to stay away from all levels of a netquake. If however a netquake would unwillingly come to the surface, the focal firm should try to stop it at a trembling network reaction or a swaying network reaction and avoid entering into the more serious levels (Fors, 2007). Since uncertainty is the basis for actors' future actions, it is the first and most basic network reaction level that must occupy most of the focal firm's thoughts. By decreasing the level of uncertainty, managers minimize the risk for entering into the more detrimental levels. This is done by proper management of role change. In order to avoid unintentional and undesired network reactions, the focal firm's job should be to normalize the critical event and make it appear as ordinary and harmless as possible. Only then will the critical event be perceived as uncritical.

"Customers express their worries by giving us less and less projects. [...] We lost Länsförsäkringar, Svensk Exportkredit, Nordic Timber Council and also SAS [...]." These words explain how worries among network members lead to the decrease of collaboration which in turn leads to the dissolution of business relationships. In a later phase of development, the Swedish IT distributor Nocom found itself without any partners. During several years to come, Nocom had to re-establish itself on the market by re-taking its original distributor role.

5.2 Summarizing network reactions and their implications

5.2.1 Summarizing network reactions

All four network reactions presented above are summarized in Table 2, showing the link between role change and their consequences. Also, the distinguished features of each consequence are listed as examples by which reactions can be identified. The trembling network reaction and the swaying network reaction describe how actors experience role change and adjust to it, whereas the shaking network reaction and the breaking network reaction affect the underlying network structure. Network reactions do not necessarily have to follow a predetermined path starting from the trembling level and ending with the breaking level. What the model emphasizes is that uncertainty often is the basis for other reactions, whether these reactions are found on the swaying level, the shaking level or the breaking level. It is also important to point out that for instance a relationship termination at the shaking network reaction level can in itself be seen as a critical event leading to further reactions in the network. In such cases however, only the first incident would be regarded as the critical one.

Network reaction	Description	Distinguished feature	Example of process
Trembling	Change in role does not lead to any observable change in the network, but is noted by others who begin to analyse the way they will be affected.	- Uncertainty and anxiety - Turbulence and stress - Speculations and rumours - Information seeking - Rejection	Role conflict Role transition Role-extension Role definition
Swaying	Change in role leads to some changes, mostly in the form of changes within individual organizations and adaptations in ongoing business relationships.	<u>Internal affairs</u> - Layoffs - New recruitments - Restructuring - Alteration of activities - Acquisition of new skills <u>Changes in business relationships</u> - Change in activity links (meetings, troubled projects, delayed and cancelled deliveries) - Change in resource ties (re-allocation of resources) - Change in actor bonds (conflicts)	Role conflict Role transition Role-extension Role definition
Shaking	Change in role leads to changes, both in the form of changes within individual organizations, adaptations in ongoing relationships and changes in the network structure.	- Dissolutions of relationships - Establishments of relationships - More actors are involved, for example a whole business net	Role transition Role alteration Role-making Role-taking
Breaking	Change in role leads to changes in the network structure. Change is absorbed in the wider network. There is no return to the old network structure.	- Almost all actors within the business network are affected	Role transition Role alteration Role-making Role-taking

Table 2. Categorization of network reactions to role change (adapted from Dahlin et al., 2005, p. 6).

The proposed network reactions are furthermore illustrated in figures 1a-1d (adapted from Fors, 2007). In each case the exclamation mark represents a role change, starting a wave of uncertainty among network members. In the figures it is clear that the higher levels, from trembling to breaking, the more actors and relationships are involved and the greater the changes are in the network structure. The consequences that strike the network depend, among other things, on how tightly connected the relationships are (Håkansson and Snehota, 1995), how strong the positions of the companies are, and on the nature of relationships with regard to commitment, trust and norms (Håkansson, 1982). The consequences of an earthquake can vary a great deal depending on the

geological configuration of the earth's outermost layer as well as the quality and construction of buildings. In the same way, the connected network react differently depending on the network's structural ground and constructions of relationships (Dahlin et al., 2005, p. 5).

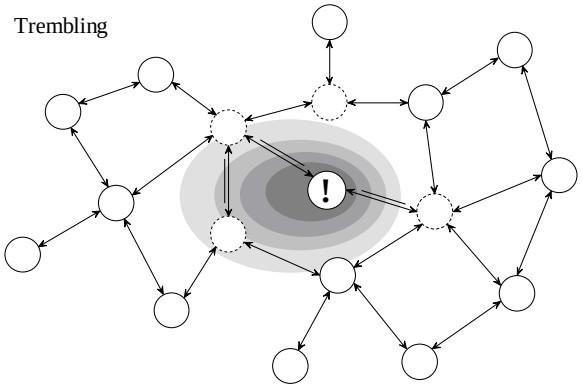

Figure 1a. A trembling network reaction with, uncertainty, rumours and speculations.

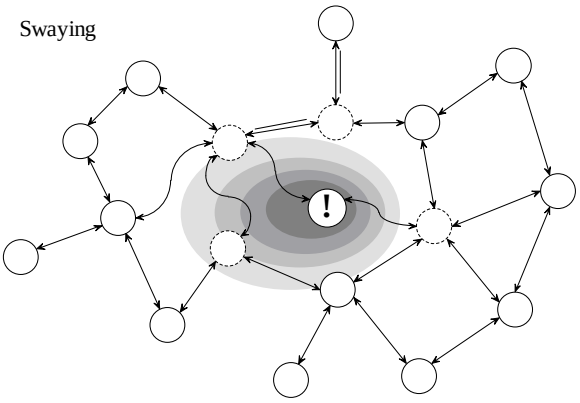

Figure 1b. A swaying network reaction with adaptations within individual organizations and in ongoing relationships.

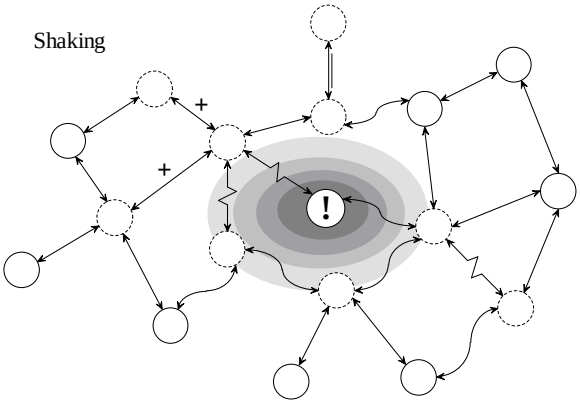

Figure 1c. A shaking network reaction with some changes in the network structure.

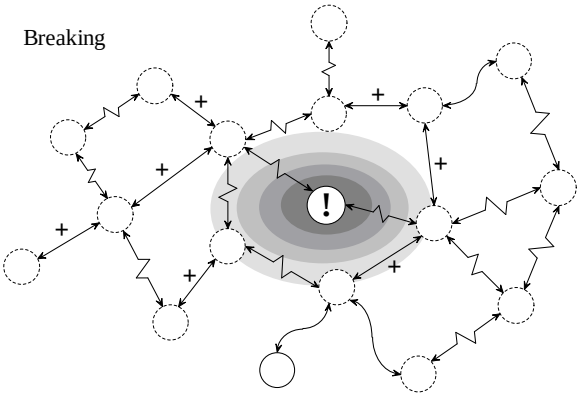

Figure 1d. A breaking network reaction with a total reconfiguration of the network structure.

5.2.2 Managing the role change process

Understanding the consequences of role change for surrounding network members makes it possible for managers to predict the outcome of their own and others' activities in the network. By understanding available network reactions to role change, managers can make more conscious choices when planning for alteration. This could realistically save companies from additional time and money. Indeed, it could be the difference between a firm feeling as though a related change means an inevitable demise of the company, and recognizing that it could be the start of a great shift towards a more profitable, efficient future. Organizations should therefore be

investing a portion of their resources to effective role change management, whether they are directly or indirectly affected by it. To maximize the potential for growth and minimize the risk of collapse, it is vital to understand and anticipate disruptions to and changes within evolving, developing industries. Because companies are connected to each other and can be affected by changes in the surrounding network, there is a need for every individual firm to take precautions, develop plans and consciously make choices about how to manage a nearby critical event. The reaction of each organization forms part of what should be a stringently monitored change management undertaking, ensuring that the outcome of the interconnected change can be encouraged to envelope positive restructure. The reaction of a firm to particular external occurrences can have a great impact, positively or negatively, on the future of the firm. (Fors, 2008)

This paper has emphasized the importance of taking the surrounding business network into account when looking into role change. To properly comprehend the ways in which single organizations suffer, benefit or react in times of change, the network perspective must be considered. In his discussion about strategic change, Mattsson (1987) argues that strategic change means great changes in the focal firm's network position. According to Mattsson, a position is defined both by the focal firm's relationship with another company (the micro level) and by the focal firm's relationships with several other companies in the surrounding network (the macro level). He defines strategic change as major changes in a firm's relationships to the environment. This makes it obvious that a successful change process is dependent on achieving desired reactions not only internally but also from surrounding network members. This also makes it obvious that the way the focal firm manages a critical event will influence its future business and position in the network. Unsatisfied network members are likely to cause great trouble for the focal firm's future business. Fors (2007) argues that communication is the single most important aspect influencing business actors' reactions to change. Critical events create anxiety and speculations among surrounding network members and triggers radical changes in the deep structure of the network. Uncertainty is founded in the lack of information and proper communication and consequently, the waves of uncertainty can be prevented or promoted only by means of communication. The best way to avoid or alleviate such anxieties is to ensure that all parties are well informed at all stages of development, removing the likelihood of confusion and misunderstanding whilst change is taking place in the network.

6. Concluding remarks

This paper has discussed the connection between role change and change in business networks. Network reactions have been categorized into (1) trembling, (2) swaying, (3) shaking, and (4) breaking. The categorization describes the different consequences a role change may have for the surrounding business network, either for individual actors or for the relationships between actors. Figure 2 summarizes the discussion by presenting the succession of network reactions to role change. First, an actor has a role according to a predetermined role-set in the network. An event occurs, which may be internal or external to the organization. This can be, for instance, layoffs within the organization or the termination of a relationship to a supplier. A critical event can also consist of several smaller events, culminating in the realization that change must take place in order to continue. The event is furthermore not critical unless it leads to an observable outcome. In this case the outcome is a change in role of the actor. The event may also lead to change in the roles of network members (hence $role_x$ and $role_y$). The outcome of the critical event will then lead to different kinds of reactions in the network. It is important to remember that the process continues as the change reaction is absorbed in the network, e.g. by modifying role-sets and creating new critical events.

The four types of network reactions presented in the paper basically label the kind of change that takes place within a business network. As already mentioned, there is still little research taking into account network reactions as a consequence of role change. We know very little about how surrounding actors respond to change and most importantly, we lack knowledge about how to manage change as to achieve desired reactions. We argue that by understanding the process of role change and its consequences for the surrounding business

network, role change can be managed in a way that brings firm success. Firms must be aware of what kind of implications role change has in terms of network reactions in order to avoid unintentional and undesired responses.

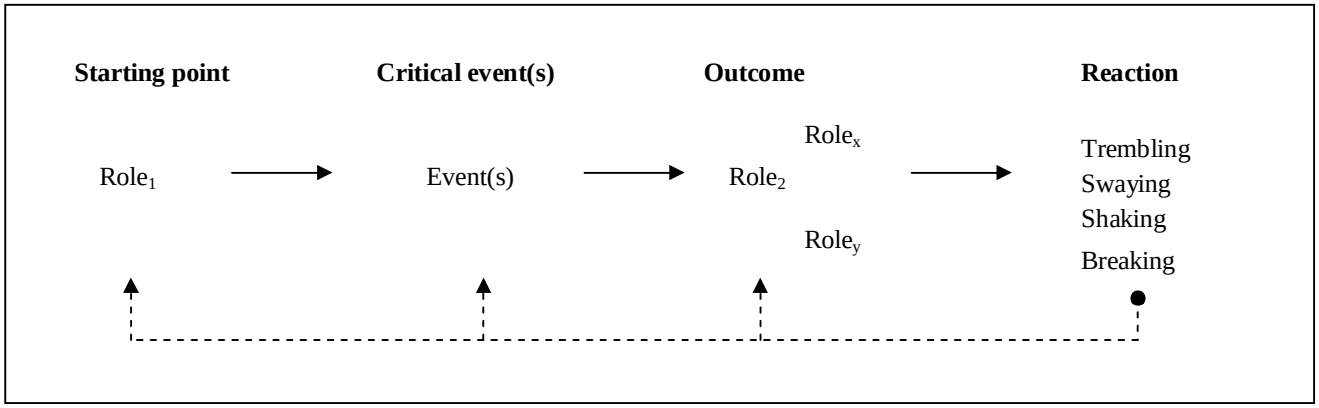

Figure 2. From role change to network reaction.

One should remember that network dynamics consists of a continuous process of actions and reactions taken by members of the network. Every action is not a critical event that has the possibility of starting a process of network reactions, but it is crucial that managers learn to interpret signals and messages in order to estimate the scope of events. For instance, when it becomes clear that a business partner is shifting its role, perhaps even going through role transition, network members may prepare better for change. The suggested model developed by Dahlin et al. (2005) offers a tool, by which these signals can be identified and potential implications may be assessed. Our analysis suggests that network reactions originate on an actor level, which is then transferred to the relationship level and further to the surrounding network.

Since research on role change and network reactions is still fragmented and limited in explaining how change spreads and exactly how network members react to a specific type of change, our hope is to increase our theoretical understanding of network dynamics and B2B marketing. Business network dynamics is still a fairly unexplored area when it comes to practical examples in the form of case studies. Also, the reason or trigger of change processes has received little attention in current research, and therefore we suggest a focus on the triggers of change processes in future research. For instance, most literature on business network dynamics argues that change originates in the dyad, however not specifying any concrete reasons behind the change in question.

References

Abrahamsen, M. H., Naudé, P. & Håkansson, H. (2007): Perceptions on Change in Business Networks: Norwegian Salmon Exporters and Japanese Importers. Competitive paper presented at the 23rd Annual IMP Conference, Manchester.

Allen, V.L. & van de Vliert, E. (1984): "A Role Theoretical Perspective on Transitional Processes", in Allen V. L. & van de Vliert, E. (Eds.): Role Transitions: Explorations and Explanations, Plenum, New York.

Anderson, H. & Havila, V. (1993): "Role and Position - Understanding Dynamics in Networks", paper presented at the 9th IMP Annual Conference, Bath, UK.

Anderson, H., Havila, V., Andersen, P. & Halinen, A. (1998): "Position and Role-Conceptualizing Dynamics in Business Networks", Scandinavian Journal of Management, Vol. 14, No. 3, pp. 167-186.

Anderson, H., Andersson, P., Havila, V. & Salmi, A. (2000): "Business Network Dynamics and M&As: Structural and Processual Connectedness", paper presented at the 16th Annual IMP conference, Bath, UK.

Anderson, J.C, H. Håkansson & J. Johanson (1994): "Dyadic Business Relationships within a Business Network Context" in Journal of Marketing, Vol. 58 (October), pp. 1-15.

Baraldi, E., Bocconcelli, R. & Søderlund, A. (2001): "Resource Interaction in Furniture Networks: Relating Design, Distribution and IT", in Nordiske Organisasjonsstudier, Vol. 3, No. 4, pp. 110-34.

Benassi, M. (1995): "Governance Factors in a Network Process Approach" in Scandinavian Journal of Management, Vol. 11, No. 3, pp. 269-281.

Biddle, B.J. & E.J. Thomas (1966): Role Theory: Concepts and Research, John Wiley, New York.

Biddle, B.J. (1986): "Recent Developments in Role Theory" in Annual Review of Sociology, Vol. 12, pp. 67-92.

Broderick, A.J. (1999): "Role Theory and the Management of Service Encounters" in The Service Industries Journal, Vol. 19, No. 2 (April), pp. 117-131.

Dahlin, P., Fors, J., Havila, V. & Thilenius, P. (2005), *Netquakes - Describing effects of ending business relationships on business networks*. IMP 2005, Rotterdam.

Easton, G. (1992): "Industrial Networks: A Review" in Axelsson, B. & G. Easton (Eds.): Industrial Networks. A New View of Reality, Routledge, London, pp. 1-27.

Easton, G. & Lundgren, A. (1992): "Changes in the Industrial Networks as Flow through Nodes", in Axelsson, B. & Easton, G. (Eds.): Industrial Networks. A New View of Reality, Routledge, London, pp. 88-104.

Ford, D. & H. Håkansson (2006): "The Idea of Business Interaction" in The IMP Journal, Vol. 1, No. 1, pp. 4-27.

Fors, J. (2007): Communicating M&As to Business Networks – A Conceptual Discussion. Competitive paper presented at the 23rd Annual IMP Conference, August 30th – September 1st in Manchester.

Fors, J. (2008), *Rumours, speculations and uncertainty in business networks: A result of lacking communication. A case study from the Swedish dotcom crash*. Paper presented at the 24th Annual IMP Conference, Uppsala, Sweden.

Fredriksson, P. & Gadde, L-E. (2005), "Flexibility and rigidity in customization and build-to-order production," *Industrial Marketing Management*, **34**(7): 695-705.

Gadde, L-E. (2004): "Activity Coordination and Resource Combining in Distribution Networks – Implications for Relationship Involvement and the Relationship Atmosphere" in Journal of Marketing Management, Vol. 20, No. 1-2, pp. 157-84.

Gadde, L-E. & Håkansson, H. (2001): Supply Network Strategies. Chichester: John Wiley & Sons.

Gersick, C. J. G. (1991), "Revolutionary Change Theories: A Multilevel Explortation of the Punctuated Equlilibrium Paradigm." *The Academy of Management Review*, **16**(1): 10-36.

Håkansson, H. (1982): International marketing and purchasing of industrial goods: An interaction approach, New York, US: John Wiley & Sons.

Håkansson, H. (1992): "Evolution Processes in Industrial Networks", in Axelsson, B. & Easton, G. (Eds.): Industrial Networks. A New View of Reality, Routledge, London, pp. 129-143.

Håkansson, H. & J. Johanson (1992): "A Model of Industrial Networks" in Axelsson, B. & G. Easton (Eds.): Industrial Networks. A New View of Reality, Routledge, London, pp. 28-33.

Håkansson, H. & Snehota, I. (1995): “Relationships in Business”, in Håkansson, H. & Snehota, I. (Eds.), Developing Relationships in Business Networks, Routledge, London, pp. 1-23.
Håkansson, H. & Waluszewski, A. (2002): Managing Technological Development: IKEA, the Environment and Technology, Routledge, London.
Hägg, I. & Johanson, J. (1983): Firms in networks. A New View of Competitive Power, Business and Social Research Institute, Stockholm
Halinen, A., Salmi, A. & Havila, V. (1999): “From Dyadic Change to Changing Business Networks: An Analytical Framework”, Journal of Management Studies, Vol. 36, No. 6 (November), pp. 779-794.
Havila, V. & Salmi, A. (2000): "Spread of Change in Business Networks: An Empirical Study of Mergers and Acquisitions in the Graphic Industry" in Journal of Strategic Marketing, Vol. 8, No. 2, pp. 105-119.
Havila, V. & Salmi, A. (2002), “Network perspective on international mergers and acquisitions: What more do we see?” In Havila, V., Forsgren, M., Håkansson, H. (eds. (2002), *Critical perspectives on internationalisation*, Amsterdam, London, New York, Oxford, Pergamon, Elsevier Science Ltd.**:** 457-472.
Henders, B. (1992): Positions in Industrial Networks: Marketing Newsprint in the UK, dissertation, Uppsala University, Department of Business Studies, Uppsala.
Heikkinen, M.T., Mainela, T., Still, J. & Tähtinen, J. (2007): “Roles for Managing in Mobile Service Development Nets”, Industrial Marketing Management, Vol. 36, pp. 909-925.
Hertz, S. (1992): “Towards more Integrated Industrial Systems”, in Axelsson, B. & G. Easton (Eds.): Industrial Networks. A New View of Reality, Routledge, London, pp. 105-128.
Hertz, S. (1996): “Drifting Closer and Drifting Away in Networks. Gradual Changes in Interdependencies of Networks” in Iacobucci, D. (ed.) *Networks in Marketing*, Sage Publications, Thousand Oaks, pp. 179-204.
Hertz, S. (1998): “Domino Effects in International Networks”, Journal of Business-to-Business Marketing, Vol. 5, No. 3, pp. 3-31.
Holmlund, M. & T. Strandvik (1999): Critical Incidents in Business Relationships, Working papers no. 396, Swedish School of Economics and Business Administration, Helsinki.
Jahnke, I., C. Ritterskamp & T. Herrmann (2005): ”Sociotechnical Roles for Sociotechnical Systems – A Perspective from Social and Computer Sciences” in Proceedings from American Association for Artificial Intelligence, July 9-13, Pittsburg, Pensylvania.
Katz, D. & R. Kahn (1966): The Social Psychology of Organizations, John Wiley & Sons, New York.
Linton, R. (1936): The Study of Man, D. Appleton-Century Company, Inc.
Lundgren, A. (1992): "Coordinating and mobilisation processes in industrial networks" In Axelsson, B and Easton, G. (eds), Industrial Networks: A New View of Reality. London, Routledge**.**
Mattsson, L-G. (1985): "An Application of a Network Approach to Marketing: Defending and Changing Positions". in Dholakia, N. & J. Arndt (Eds.): Changing the Course of Marketing: Alternative Paradigms for Widening Marketing Theory. JAI Press, Greenwich, pp. 263-288.
Mattsson, L.-G. (1987): “Management of Strategic Change in a ‘Market-as-Network’ Perspective.” In Pettigrew, A. M. (ed.), The Management of Strategic Change, Oxford, Basil Blackwell Ltd.
Merton, R.K. (1957): “The Role-Set: Problems in Sociological Theory”, The British Journal of Sociology, Vol. VIII, No. 2, pp. 61-65.
Mills, J.H. (2003): Making Sense of Organizational Change, Routledge, London, UK.
Mintzberg, H. (1990): “The Design School: Reconsidering the Basic Premises of Strategic Management” in Strategic Management Journal, Vol. 11, No. 3, pp. 171-195.
Nyström, A-G & Hanttu, N. (2007): Establishing a New Business Area through Cooperative Nets: the Case of Finnish Mobile TV, in Proceedings from the 23rd Annual IMP Conference, Manchester, UK.
Nyström, A-G (2008): Understanding Change Processes in Business Networks. A Study of Convergence in Finnish Telecommunications 1985-2005, dissertation, Åbo Akademi University.
Powell, W.W. (1990): “Neither Market nor Hierarchy: Network Forms of Organization” in Research in Organizational Behavior, Vol. 12, pp. 295–336.
Taylor, J.R. & E.J. Van Every (2000): The Emergent Organization: Communication as Its Site and Surface, Erlbaum, Mahwah, NJ.

Thorelli, H.B. (1986): “Networks: Between Markets and Hierarchies” in Strategic Management Journal, Vol. 7, No. 1, pp. 37-51.
Turner, J.H. (1988): A Theory of Social Interaction, Stanford University Press, Stanford, California.
Tähtinen, J. and Vaaland, T. I. (2005): "Business Relationships Facing the End: Why Restore Them?" Journal of Business & Industrial Marketing.
Weick, K.E. (1995): Sensemaking in Organizations, Sage Publications, Thousand Oaks, CA.
Weick, K.E. & K.M. Sutcliffe (2005): ”Organizing and the Process of Sensemaking” in Organization Science, Vol. 16, No. 4, July-August, pp. 409-421.
Zerillo, P. C. Sr. & Raina, R. (1996): “Marketing Networks. A New Entrant’s Approach to Network Equity”, in Iacobucci, D. (Ed.): Networks in Marketing, Sage Publications, Thousand Oaks.